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ORIGINAL DEPARTMENT.

LECTURES.

Lectures on Orthopædic Surgery.

Delivered at the Brooklyn Medical and Surgical Institute.

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I. DEFORMITIES OF THE FEET.

GENTLEMEN:—The anatomical structure of the human foot is a most admirable and perfect piece of mechanism. Composed of twenty-six bones, fastened to, and articulating with each other, the foot combines a high degree of firmness and elasticity. It is, therefore, well adapted as a foundation for the body in the erect posture. It assumes for locomotion the manifold positions required, and preserves, under all physiological necessities, strength and reliance. To achieve so complicated an object with the greatest economy, nature has given to the foot a double arch, one between the heel and the ball of the great toe—the *longitudinal arch*—the other between the two margins of the foot supported by the heel, the capitulum of the first and the tuberosity of the fifth metatarsal bone—the *transverse arch*. The two arches form a niche at the sole of the foot, thus causing its great strength. The plantar aponeurosis adds materially to the capacity of the longitudinal arch for bearing the weight of the body, and its strength prevents, under ordinary circumstances, any breaking down. The transverse arch is not so strongly supported.

The short transverse ligaments permit expansion to such a degree as to bring the fibular margin of the foot down to the floor, as can be readily demonstrated by an experiment. By placing your foot in water, and afterward standing with the entire weight of the body upon the

floor, the external margin is imprinted to its full extent, and, so firmly, that a piece of paper cannot be removed from below that side, whereas the internal margin leaves no trace behind. For ordinary locomotion the toes seem to be dispensable appendices. But, if the foot is fully extended, the body being raised upon the capitula of the metatarsal bones, the toes come into play by enlarging the base. Pliny's remark, "*digiti gressii solum apprehendunt*," is, therefore, most appropriate.

The tibio-tarsal articulation is so constructed as to permit the approximation of the foot to the leg, (flexion,) to an angle of $78^{\circ} 2'$, (Weber,) and the extension may be carried to an angle of 120° . Besides flexion and extension, the foot is capable of performing other motions in which the ankle-joint takes, however, a very limited part. In the rotatory movements on the longitudinal axis, the astragalus slides a little forward. Adduction is chiefly carried out by the astragalus and the scaphoid; abduction, by the calcaneus and cuboid bones.

In greater rotations of the foot, the calcaneo-astragaloid articulation comes into operation.

The muscles affecting ordinary flexion are the *tibialis anticus* and the *peroneus tertius*; in the higher degrees, the *extensor digitorum longus* and *pollicis longus* materially aid.

A similar arrangement exists in the extension of the foot, the ordinary extensors being the muscles that terminate in the Achillis tendon, *gastrocnemius*, *soleus*, and *plantaris*; whereas the higher grade of extension is aided by the *tibialis posticus*, *peroneus, longus* and *brevis*, *flexor digitorum longus*, and *pollicis longus* muscles.

Adduction of the foot is exclusively effected by the *two tibiales* muscles; while abduction is carried out by the *three peronei* muscles conjointly.

As to the nerves supplying the different groups of muscles, Bonnet's experiments have disclosed

that the peroneus nerve furnishes the motor fibers to the extensors of the toes and the peronei muscles; while the tibial nerve supplies the rest. That his observations are correct, we have been enabled to ascertain clinically.

We cannot further proceed into the details of the anatomical structure of the foot without exceeding our limits; but we request you to give them your special attention, for, on future occasions, we shall have to refer to them.

From the anatomical structure and the mechanical importance of the foot, it should be inferred that it is frequently the subject of deformity and malposition. And this is actually the case. Nay, more, they are not only the most numerous, but likewise of a stereotyped nature.

A considerable portion of pedal deformities are *congenital*; the larger number, however, is acquired. As to their remote causes, we can often trace them to troubles of the nervous system. They rarely consist in defective development of some of the bones of the foot, (Bilroth.*) Inflammation of the tibio-tarsal articulation likewise gives rise to them, through reflex action. Of a considerable fraction we know nothing positive of their causes.

For the more stereotyped deformity of the foot, the generic term "*talipes*" has been introduced and applied to all distortions from the normal position, with or without partial displacement of the articular surfaces of the tarsal bones.

According to certain malpositions of the foot, the varieties of *talipes* have received different appellations. If the internal margin of the foot is raised, and the toes inverted, it is called *club-foot*, *talipes varus*; if the plantar arch is broken down, the external margin of the foot elevated, and the toes everted, we have *talipes valgus*, or *flat-foot*; in *talipes equinus* the heel is abnormally raised from the ground, and the foot placed in permanent extension; or *talipes calcaneus*, when the foot occupies the reverse position of the latter. Combinations between the previous simple forms of *talipes* are respectively termed equino-varus; varo-equinus; equino-valgus; calcaneo-valgus, etc.

The exact diagnostic discrimination of the various complicated forms is a matter of great importance, and exercises a material influence upon the treatment to be adopted for their respective relief.

1. *Talipes Equinus*.

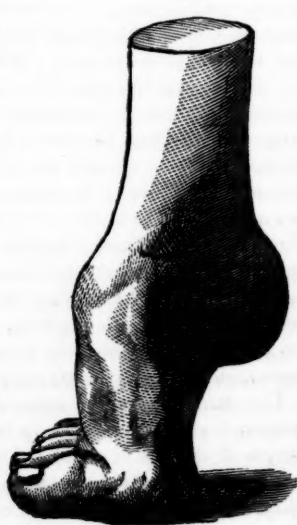
The semiotic character of *talipes equinus* is briefly as follows: the foot is more or less completely extended, and, in exceptional cases, may be placed in straight continuance with the leg. The remaining mobility is in the reverse ratio to the degree of extension; that is to say, it diminishes with the increase of the latter. The foot rests upon the ball, and chiefly, however, upon the ball of the large toe. The plantar arch is materially increased, and the toes, more especially the large one, are drawn back. The Achillis tendon is found to be extremely tense, and is rendered still more so by attempting to flex the foot. The plantar aponeurosis is likewise shortened, most likely by virtue of the plantar muscles. The extensor digitorum communis and pollicis longus are but rarely contracted, and if we find them so, it is most probably in consequence of the habitual action of those muscles to prevent the toes from interference.

The place which the foot rests upon is invariably covered with a thick and massive callosity. The entire extremity is greatly attenuated and arrested in its growth and development; the more so, the longer the distortion has existed. In addition, we observe sluggish capillary circulation and diminished temperature of the member, which manifest their effects more particularly in cold weather, when the limb becomes bluish red, mottled, and loses all its caloric, Figs. 3, 4.

Fig. 3.



Fig. 4.



* Archive der Klinischen Chirurgie, vol. I. heft 1, Berlin, 1860.

The foot is of course shorter than its fellow, partly from arrested development, partly on account of the increased arch; and it is indeed very rare that it acquires its proper size. In front of the tibio-tarsal articulation, we clearly notice the trochlea of the astragalus, the superior surface of which lays almost in the same plane with the tibia. The malleoli are not sufficiently developed, and the diameter of the articular axis is generally diminished by one-eighth of an inch and more.

Though the gastrocnemius and soleus muscles are chiefly involved in talipes equinus, we have met with instances in which the entire group of extensor muscles participated in the deformity. This is particularly the case in serious lesions of the spinal cord; and once we observed it as the sequel of a fracture of the lumbar portion of the spine. Whether the tibialis posticus, the two peronei, and the flexor muscles of the toes are involved, is by no means so easy to determine, because the tendons of those muscles are bound down to the grooves of the malleoli by serous slides, and the aponeurosis of the leg is particularly thick and strong about the ankle-joint. Sometimes the tendons have left their respective grooves and moved to the outside of the malleoli from the continuous stretch, and this may facilitate the diagnosis; but at others, we do not become aware of the difficulty until the Achillis tendon has been divided without producing the desired effect.

As a general thing, the contracted muscles have lost all susceptibility of being acted on by the galvanic current, yet their powerful extension gives rise to unbearable pain. This fact seems to demonstrate that the muscular structure is in a state of contraction to the extent of its capacity, or the substituted tissue is devoid of all contractile power. It is certain that innervation has not entirely been lost while pain can be provoked by extension.

After the division of the tendons, many months may elapse before the galvanic current makes any impression, and, in some instances, the contractility of the muscles is gone forever.

As might be expected, in talipes equinus of long standing, the bones themselves participate in the deformity. Their malformation exercises, of course, a material influence upon the prognosis.

We have observed two or three cases of talipes equinus in which most of the symptoms just enumerated were wanting; and in fact all that

characterized the trouble was the extended position of the foot and the retraction of the tendo-Achillis. Moreover, the extremity was well maintained, of ordinary temperature and color. The prevailing cause proved to be *arrest of growth* of the extremity from unknown causes, and the patients had extended the foot in order to elongate the limb and to walk with greater facility. In course of time, they had lost all volition in reference to the extensor muscles, which became fairly contracted, and the malposition belonged undoubtedly to talipes equinus. It would be unwise to interfere in those cases. In all respects, the position of the foot is serviceable, and certainly preferable to a high boot.

Talipes equinus is but rarely congenital; most usually it is *acquired*, and *depends on affections of the spinal cord and its investments*. We have exceptionally observed talipes equinus as the consequence of posterior curvature of the spinal column; fracture of the first and second lumbar vertebræ; and once, of a wound in the back. The injury was inflicted near the tenth dorsal vertebra, by a strong-bladed knife. From the fact that the knife stuck fast, and was removed with difficulty, it seems to be justifiable to infer that the blade had entered the bone. The wound closed without delay. A few days after the accident, the patient, a strong man of about thirty-five years, was attacked with what seemed to be severe cramps in his left calf, which eventually terminated in tonic contraction of the entire group of extensors of the foot, and in a high degree of talipes equinus.

It is rather interesting to observe the process by which talipes equinus is superadded to the already existing paraplegia. We remember a few cases in which the paralysis of the lower extremities had existed some years without any change, when suddenly, and without apparent cause, the patient was attacked with severe rigors, lasting for some hours. During the same time the patient noticed painless contractions of the extensor muscles of the foot, which became permanent, and gave rise to extreme talipes equinus. In other cases of paraplegia, the commencement of talipes equinus initiated a partial return of sensation and motor power, as in the case of fracture of the spine.

In regard to the *prognosis* of talipes equinus, we have to consider the deformity *per se*, and the nature of its cause. The former is comparatively trifling unless the tarsal bones are so much mal-

formed as to prevent or aggravate their readjustment, which, however, is not so often the case.

As a general thing, you have to deal only with the contracted muscles, and division is the sovereign remedy. But if the case has existed from infancy, the bones have in form accommodated themselves to their abnormal position, the tibio-tarsal articulation is crippled, then the prognosis is rendered doubtful, and the case may be even irremediable.

In order to accomplish a cure, both malposition and malformation of the tarsal bones have to be corrected, which, at best, is a slow process, and, as already stated, may not be accomplishable at all.

The second point that enters upon our prognostic consideration is, the proximate cause of the trouble. We may have succeeded in removing the deformity by appropriate measures, and in keeping the foot by mechanical appliances in proper position.

This is but palliative relief, and is not a cure.

In order to achieve success, you have to re-establish proper innervation of the afflicted extremity, promote its nutrition and development, and give tone to the muscles. Such a result we are mostly debarred from accomplishing, however assiduously and perseveringly we may advance with our auxiliaries, and therefore we should be guarded in our prognosis, and promise no more than we are capable of realizing. In children, however, the prognosis of talipes equinus is more favorable, for it has been observed that with the relief of the distortion, the nutrition, growth, and development become improved. It must not be forgotten, however, that the extremity very rarely keeps pace with its fellow.

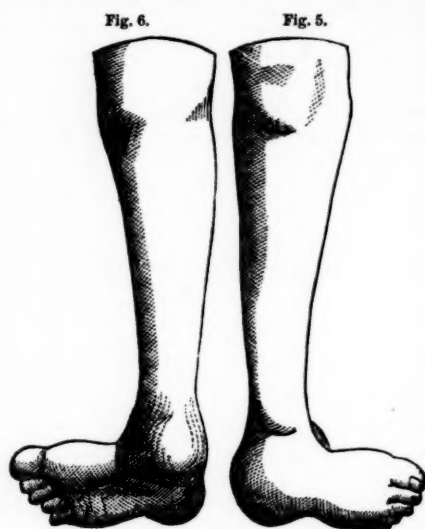
2. Talipes varus. Club-foot.

Simple club-foot is rare. That deformity which is generally designated as club-foot is a combination of varus and equinus. In the succeeding discourse, we shall keep that form in view.

Varus equinus is a frequent deformity. There is hardly a community, however small, among which could not be found one or two cases. Most usually it is of congenital origin, and very seldom acquired. If so, club-foot is superadded to pre-existing talipes equinus, and paralysis of the peronei muscles.

The anatomical derangement in club-foot is somewhat complicated. We shall discuss it at some length, in order to render it more comprehensible.

In the specimen before you, Figs. 5 and 6,* representing the highest grade of club-foot, and taken



from a man twenty-seven years of age, you notice most of the general symptoms enumerated under the head of equinus, viz., *attenuation of the extremity, arrest of growth and development.* And what you cannot perceive in this plaster cast, we may be allowed to add: *loss of temperature, mottled appearance, etc.* The difference in the length of this extremity and that of its fellow amounted to *three inches* at the end of a three years' and at last successful treatment. In placing the cast into the same position in which the patient used his deformed member, you can realize the full extent of the distortion.

You notice thus, that the foot is longitudinally so turned, that its external margin stands on the floor, whereas the internal margin is uppermost. The foot touches the ground a little anteriorly from the external malleolus, where, from pressure, a *large callosity* has formed. Again, you observe that the back of the foot has a *forward*, and the plantar surface a *backward* direction, which, of course, implies *inversion of the toes.*

In comparing this with another cast, derived from valgus, you perceive the *directly opposite condition.* In varus, the dorsum has been *elevated* and rendered more *convex*; in the other, the dorsum is almost *flat.* In the former, the plantar arch is *greatly increased*; in that of valgus

* The same specimen in the posterior aspect.

it is *entirely broken down*, so that no arch at all remains, and the tarsus comes in contact with the floor. Furthermore, here is an *inflexion* or *infraction*, noticeable at the internal margin, which has the effect of *approximating heel and large toe*; in *valgus*, the infraction comes from the external margin, and, in the highest grade of this deformity, tends to *bring the heel nearer to the small toe*. In our case, the cuboid, the anterior portion of the calcaneus, and the tuberosity of the fifth metatarsal bone protrude; in the other, as stated, it is chiefly the scaphoid bone.

We now propose to investigate the morbid anatomy of club-foot, the result of which has practical bearing upon its treatment. The conflicting statements of authors on the pathologico-anatomical condition of club-feet, derived from autopsy, seem to be strange to the inexperienced; not so, however, to those who have given some attention to the subject. There is a great *variety* in club-feet, which necessarily must present somewhat *different anatomical aspects*. The greatest difference accrues, however, from the *duration* of the deformity.

In most infantile club-feet, the difficulty merely seems to consist in contracted muscles, and as soon as that has been overcome the bones may be reduced to their proper relation. This, however, is scarcely possible in club-foot of long standing, having served already in locomotion. In those, we find the malposition of the foot much greater, and the bones themselves materially altered in shape. With this explanation, we shall readily reconcile the apparently contradictory reports of Glisson, Camper, Joerg, Clossius, McKeever and others on one hand, and those of Paletta, Cruveilhier, Loeb, Tourtual, Little, W. Adams, Weiss, and Brodhurst on the other. The results of the anatomical investigation of the former resolve themselves in the following aphorisms:—

1. That the primitive formation of the bones is *unnatural* and *incomplete*.

2. That the bones, being originally imperfectly formed, become injured and distorted by causes independent of the formative process, viz., by pressure, occasioned by the fœtus drawing the limbs into unnatural positions; by an improper situation of the fœtus in the uterus, or by certain ligaments becoming elongated, and the articulation distorted, from contraction of some of the muscles and relaxation of others.

3. That, whatever may have been the condition

of the bones on the occurrence, the act of walking displaces and injures them.

Glisson and Camper ascribe *varus* chiefly to malformation, and even destruction (?) of the *astragalus*, and hence they pronounce it incurable; Blumenbach,* to an *unnatural shortness* of the neck of the same bone; Naumburg† and Wenzel,‡ to both *malformation* and *displacement*; Bruckner, to *partial dislocation* of the tarsus. The observations of the just-named authors refer, of course, to *old and advanced cases alone*.

Scarpa§ seems to have examined a younger subject with club-foot; for he observed only *slight deformity* of individual tarsal bones. The scaphoid, cuboid, and calcaneus were displaced; whereas the astragalus was *least affected*, and in *almost proper situation*.

W. Adams|| has recorded the dissection of two cases of infantile *varus*, to the effect that there are but *immaterial changes* of the tarsal bones, and in this respect fully confirms the views of Dr. Little: "The deviation of the *os calcis* is next in extent to that of the navicular bone." In a sound foot, the round head of the astragalus is principally supported by the inferior scaphoid ligament. In severe *varus*, however, the anterior extremity of the *os calcis* is forced inwardly as far as the round head of the astragalus, and occasionally beyond it, taking the office of the calcaneo-scaphoid ligament; the posterior extremity of the *os calcis* is consequently directed outward, toward the fibula.

Dr. Little, in his lectures,¶ gives the following information of the skeleton of club-foot:—

"An examination of these drawings, Fig. 7, will illustrate the position of the tarsal bones in complete *varus*. The *os calcis* is drawn upward; the tibial articular facets of the astragalus and its round head are exposed upon the dorsum of the foot; but the scaphoid, cuboid, cuneiform, and metatarsal bones are not merely drawn toward the sole, but also inward and upward, (and sometimes backward;) so that the innermost point touches the internal malleolus, and has an articular facet formed on it, occasioned by contact and friction. The superior and external surface of the cuboid is somewhat separated from that of the *os calcis*;

* Geschichte und Beschreibung der Knochen. Göttingen, 1786.

† Abhandlung von der Beinkrümmung. Leipzig, 1796.

‡ Dissertatio (inaug. de talepedibus variis. Tübingen, 1798.

§ Memoria chirurgica sui piodi torti congeniti dei fanciulli e sulla maniera, etc. Pavia, 1803.

|| Transactions of the Pathological Society. London, 1852.

¶ On the Nature and Treatment of the Deformities of the Human Frame. London, Longman, 1853, and copied from Little.

whereas the plantar surfaces of these bones are turned toward each other, leaving a space between them externally."

Fig. 7.



And again, Little says:—

"An attentive study of anatomy, in talipes varus, will further confirm the opinion of its origin, *that the muscles are the parts primarily involved*. If the bones were simply arrested in their development, or if they had been injured by external causes, and the contraction of muscles were but secondary, the bones would not bear so precisely a relation to the action of the muscles inserted into them. The preparation from which the drawings are taken shows that the shortening of the gastrocnemius muscle corresponds to the elevation of the heel, while the adductor and the remaining muscles on the posterior and internal surfaces of the ankle have drawn the navicular, cuboid, cuneiform, and metatarsal bones upward and posteriorly away from the astragalus, exposing its round head. In fact, the conjoint powerful action of the gastrocnemius and the other has bent the foot at the *summit* of its tarsal arch, drawn its component parts asunder while the ligaments were yet soft."

The anatomical relations of the tarsal bones are delineated with much more plainness and accuracy by our esteemed friend Bernhard E. Brodhurst,* than by either of the preceding authors. Brodhurst says the os calcis occupies almost a *vertical position*, being drawn upward by the gastrocnemius muscle, and is also slightly *rotated outward*.

The astragalus follows the calcaneus, and is slightly rotated outward; it also undergoes displacement in its vertical axis; its inner surface

tending to assume a direction forward and its external surface a direction backward, and by reason of its position between the malleoli, they are carried along with it, the internal malleolus being moved forward and the external backward. The superior articular surface of the bone is imperfectly covered by the tibia; indeed, it may remain entirely uncovered and be thrown forward on the dorsum of the foot. The astragalus being articulated with the os calcis, is slightly rotated together with it. It undergoes consequently a twofold displacement—*first, in its long axis*, through its attachments with the calcaneus; and *secondly, in its vertical axis*. The scaphoid bone is drawn in and upward, and its tubercle may be in contact with the internal malleolus. And the cuboid with the cuneiform bones, as well as the metatarsus and phalanges, necessarily follow in the abnormal direction.

With the anatomical observations of Brodhurst strictly accords not only the aspect of club-foot, but also the effect of the contracted muscles. A mere glance at the position of the heel in our specimen renders it evident that the posterior extremity of the calcaneus has *yielded inwardly* to the perverted action of the triceps, at the same time turning the bone slightly on its longitudinal axis, which the astragalus is forced to follow; whereas both Little and Adams erroneously state the direct reverse. It commonly happens that, if for some cause or the other, a muscle or its tendon is forced in an abnormal position, its action is thereby misdirected. Thus in club-foot, the adduction of the foot by the tibiales muscles displaces inwardly the insertion of the Achilles tendon, and the subsequent action of the triceps must necessarily tend to increase the adduction. On the other hand and in valgo equinus, the triceps muscle is converted into an abductor, co-operating with the peronei muscles. If either the tibialis posticus or peroneus longus and brevis leave their respective grooves behind the malleoli, they may eventually be turned into flexor muscles of the foot, instead of extending it. And once we observed the lateral displacement of the quadriceps femoris by distended subcrurean bursa, which caused that muscle both to bend and to knock-knee the extremity.

In as far as morbid anatomy may be relied on, the evidence seems to be conclusive, that in club-foot there is *no original malformation or defects* of the tarsal or metatarsal bones. From this well-established rule but a few exceptions have re-

* On the Nature and Treatment of Club-Foot. London: John Churchill, 1856.

cently been placed on record by Professor Th. Bilroth.

One case constituted pes varus of the highest grade of the right foot and pes varo-calcaneus of the left. The patient died from pneumonia, fourteen days after birth, when it was ascertained that the deformity of the right foot had been caused by the *absence of the entire tibia*, whereas the left presented the ordinary condition. In the right extremity the muscles of the inner side of the thigh inserted partly into the capsule of the knee-joint, partly into the aponeurosis of the leg, causing thereby permanent flexion of the knee. The patella presented an oblong form; there was no ligamentum patellæ. The capsule of the knee-joint was normal; the ligamentum laterale internum being absent. The fibula partook, with a dorsal surface, in the formation of the knee-joint, and was so loosely connected as to allow dislocation. In place of the cruciated ligaments there were but parallel folds of the synovial membranes.

The triceps muscle of the calf, tibialis posticus, and flexor digitorum communis longus considerably shortened. The flexor pollicis longus and tibialis anticus were entirely wanting. The tibialis posticus and flexor digitorum com. long. originated from the aponeurosis crucis, the rest in part from either the latter or the fibula, which was of ordinary size. Nerves and vessels normal in number and course.

The other case was observed in a female and well-grown child, nine months old. The left foot presented *defect of fourth toe, fifth metatarsal bone*, and *internal malleolus*, and had the malposition of valgus, the triceps muscle of the leg, and peroneus longus being contracted.

With the exception of these cases, we know no other similar defects of the bones of the leg and foot as the cause of malposition; and the most complete works on malformation, of Cruveilhier, Von Ammon, and Vrolik, are entirely silent on the subject. The only allusion we find in Robert is a case of Duval's, comprising a defect of the fibula.*

Having thus from post-mortem appearances conclusively ascertained the fact that, as a general thing, the contractions of muscles are the chief, if not the sole cause of talipes varus, it remains now for us to show which muscles are involved in the malposition.

First and foremost we have to mention the *triceps suræ*, (gastrocnemius, soleus, and plantaris,) which, through the Achillis tendon, have a common insertion in the tuberosity of the calcaneus.

At first sight it does not seem as if the triceps muscle was contracted at all. This comes from the rotation of the foot, by which the points of insertion of that muscle approximate each other. In order to show its full contraction, it would be necessary to reduce the rotation, which, of course, cannot be effected without first dividing the adductor muscles of the foot. This counterpoise seems to be the reason why the triceps muscle can never attain so great a retraction in varus as in equinus, for *the greater the extension of the foot, the less possibility exists of rotation, and vice versa*.

The idea has been prevalent among some surgeons, that the triceps was the chief, if not the exclusive cause of varus, and they have consequently contented themselves with dividing the Achillis tendon as a sufficient remedy.

This is, however, erroneous, both in a theoretical and clinical point of view. The movements of our own feet clearly denote the triceps extensor muscle as designed to raise the heel and to lower the toes. For this reason the Achillis tendon descends to the heel in a central position, equally distant from either malleolus. In club-foot, to a certain extent, the triceps is converted into an *adductor muscle*; that is to say, that after the Achillis tendon has been pulled more inward from its normal position in the axis of the leg, it cannot fail in assisting the prejudicial action of the tibialis muscles in adducting and rotating the foot. Club-foot, being dependent on abnormal pronation and extension of the foot, can, of course, not be completely overcome by the division of but one group of muscles. And gentlemen indulging in those erroneous views often experience some serious trouble with reference to the tuberosity of the fifth metatarsal bone, which, they say, becomes very painful. The secret resolves itself in the fact that the division of the Achillis tendon alone does not overcome the inward rotation of the foot, and does not diminish the tarso-metatarsal infraction, and that consequently the external margin of the foot still touches the ground at the said tuberosity, causing pressure and pain. The most conclusive disproof of the aforesaid error is talipes equinus itself. We leave it to those surgeons to conciliate their

* Des Vites Congénitales de Conformation des Articulations, page 34.

views with that pathological and rather stubborn fact.

Next to the triceps, the *two tibiales muscles* are implicated in this deformity. The tibialis posticus is sometimes so much contracted as to be forced out of its groove from behind the internal malleolus, and to appear outside or even in front of the latter, becoming actually, therefore, a flexor muscle of the foot. The tibialis anticus is generally the tensor adductor; the displacement of its tendon is noticed toward the front of the foot. The shortening of both or either of the tibiales muscles is the cause of the rotation of the foot. If their contraction is not the same in amount, the shorter tibialis will so much obscure the longer as to make its implication dubious. But as soon as the former has been divided, the contraction of the other becomes at once apparent. At last most of the plantar muscles are contracted; their shortening accounts for the longitudinal contraction of the foot and the increase of the plantar arch. We scarcely need specify them, inasmuch as most of them constitute one bundle, with the plantar aponeurosis.

The inversion of the toes in club-foot does not exclusively depend on the malposition of the foot in the tibio-tarsal articulation, nor on the infraction of the same, but conjointly on the two, and on the *rotatory looseness of the knee-joint allowing the tibia to turn on its axis*. That this is a fact, you can readily ascertain by taking a firm grasp of the thigh and foot and turning the articular faces of the knee-joint upon each other. That *relaxed condition of the knee-joint* generally continues for a long while, and even beyond the actual treatment and amendment of the deformity, so that the patient may still invert his toes with his well-formed foot. It requires, therefore, our special attention, lest we might risk the return of the original difficulty.

Another inconvenience may result from the undue mobility of the knee, namely, *posterior inflexion* of the knee-joint. In ordinary varus this does not often occur, whereas it is more frequent in the lower grades of equino-varus, in which the extension of the foot exceeds the rotation. The patient resorts to posterior inflexion as an *expedient* to approximate the points of insertion of the triceps, and to bring the heel to the ground.

The four specimens of talipes varus which we now exhibit illustrate different grades of the

deformity. The one of a child, but a few months old, shows the least; the next, that of a boy seven years of age, Figs. 8 and 9, is essentially



equino-varus—that is to say, extension of the foot prevails, presenting but a moderate deformity although it has served for locomotion all the time, and confirming, therefore, the axiom we have tried to inculcate, that the greater the extension, the lesser the rotation of the foot; the third, the most *complete varo-equinus* (Figs. 10 and 11) you ever can meet, is derived from a girl



twelve years old; and the last, Figs. 5 and 6, as already stated, belongs to a man who was twenty-seven years old when he came under our

charge. The last we almost completely relieved, whereas Fig. 10 received but little benefit at our hands, it being the most obstinate case we ever took charge of, from the fact that the bones had become greatly changed in their respective forms.

We deem it, for the practical objects of our lectures, entirely unnecessary to qualify different degrees of talipes varus, or lose any time with the mixed forms. In knowing the fundamental forms, you cannot fail to discern their complications.

The specimen upon the table will also enable you to form an idea as to the *awkward gait* of persons thus afflicted, and by bearing in mind that the deformity is still more aggravated by the *unequal length* of the extremity, you will realize the serious impediment in both appearance and locomotion of the patient. The preceding remark does not, of course, apply to double club-foot, in which the length of both extremities is mostly the same, and in which the walk is differently impeded.

As to the *usual causes* of club-foot we have *no positive knowledge*. Of the 1218 cases of talipes enumerated by Lonsdale,* 688 were congenital varus. That figure informs us first of the *frequency of talipes varus*, being more than 50 per cent. of all deformities of the feet; and secondly, of their *congenital origin*. But what the cause of congenital varus actually is, we do not know. Some authors have indulged in the speculation that the position of the fœtus in utero is not unlikely the prominent source of club-foot.

It seems hardly necessary to refute that hypothesis of Cruveilhier, as its fallacy is almost self-evident. The uterus is, for the average fœtus of six and a half pounds in weight, a rather limited space, and it has therefore to accommodate its form to the uterine cavity, the limbs being drawn up to the body and the plantar surfaces turned toward each other. This position the fœtus maintains even for some time after birth. If that was a sufficient cause for club-foot, almost every child would exhibit it; in fact, since the uterine position is a common one, varus should be the normal form of the foot.

The statistical tables of Duval, if, indeed, they are at all necessary in aiding our daily observations to the contrary, prove that but one club-

foot occurs in a population of 3000 in France.* Certainly this does not speak in favor of Cruveilhier's theory. Moreover, the lower extremities in general participate in the crooked position of the fœtus in utero, without their becoming deformed. And, in fine, the anatomical conditions in club-foot demonstrate that the bones are not acted on by the uterus; and upon the muscles it can scarcely be presumed to have any lasting influence. We can well comprehend that the position of the fœtus may for a short time prevail, but that would not be termed club-foot, since by mere manipulation we succeed in correcting it.

Delpech traces club-foot to arrest of development, and he endeavors to render his suggestion plausible by referring to an incidental coexistence of club-hand, hare-lip, cleft-palate, and other defects, with club-foot. But the anatomical condition of the latter is the best answer to such untenable speculations.

After mature deliberation, we have come to the conclusion that the cause, in congenital as well as in acquired club-foot, is pre-eminently defective innervation, and there is truly no reason why derangements in the nervous system should not take place in the fœtus as well as in a newly-born child. In club-foot the tibial nerve is the bearer of the difficulty, as must be inferred from the experiments of Bonnet.

The acquired instances of club-foot are comparatively rare, and they depend most unquestionably on impediments and lesions of the spinal cord. We can discriminate two forms of acquired varus. The active form is the less frequent, consisting in reflex action in both extensors and adductors. The extensors most usually preponderate, and we see therefore equino-varus. And the passive form as a sequel of motor paralysis.

The general experience on club-foot, etc. has settled the previous doubts. It is now generally admitted that all forms of varus are caused by either muscular contraction or motor paralysis, and that the individual bones of the foot yield only so much in their respective positions as they are forced to do by the abnormal muscular traction and the superincumbent weight of the body. But being held for some time and acted upon in that preternatural position, they gradually mould themselves accordingly, and become consequently

* Medical Gazette. London, 1849.

* Traité Pratique de Pied. Bot., 1834.

malformed. That this is less the case in the lower grades of malposition of this kind and more in aggravated deformities of the foot, must be self-evident, and requires no further proof.

The prognosis of club-foot is governed by the same general considerations as that of talipes equinus. It should, however, be remembered that in the latter we have rarely to contend with any malformation of the bones. At any rate, the local obstacles to reformation and reposition of the foot are of a simpler nature. The same holds good also in recent cases of varus, in which the prognosis is comparatively favorable. But the higher grades of club-foot already used for locomotion are certainly severe tests for the patience, endurance, and perseverance of both the surgeon and his client; and years may be required to achieve a moderately good form and position of the foot, while the attenuation and impeded growth of the extremity may even remain in *statu quo*.

The age of the patient is thus far of prognostic importance, as it implies both previous locomotion of the distorted extremity and increasing hardness of the bones. We have, however, observed some exceptions to that rule, and found some of the specimens of varus of more advanced age more manageable than in younger individuals, the grades being the same.

In general, however, talipes varus constitutes a formidable and variously complicated deformity, and its eventual relief an object of skill and tact of the surgeon. We have purposely emphasized this remark in order to counterbalance the still-prevailing opinion of some practitioners, that club-foot was a distortion readily overcome by dividing the Achillis tendon and applying Scarpa's shoe. The want of experience qualifies such an assertion, and we have good reason to believe that in so comfortable a way not one single club-foot has ever been cured.

Whenever a case of talipes varus is placed under your charge, we should advise you to weigh carefully in your mind all its constituting difficulties: its degree, the condition of the bones, the state of the extremity in general, the age of the patient, and the determination of the latter or the relatives to have the cure accomplished; for their good-will is certainly indispensable to the ultimate result. And according to all this, shape your prognosis. In doing so, you will protect yourself against insolence and disappointment.

COMMUNICATIONS.

A Historical Sketch of the Dance of St. Vitus, with Notices of some Kindred Disorders.

By JAMES J. LEVICK, M.D.,

One of the Physicians of the Pennsylvania Hospital.

Continued from page 282.

More recently, (1760,) a religious sect, known as the "Jumpers," who appear to have been of the Methodist persuasion, excited much enthusiasm in Great Britain. At their religious meetings they succeeded in creating a state of nervous excitement which resulted in great disorder.

The leading character, we are told by a recent writer, "was the convulsive tendency of all the voluntary muscles, and a state of religious frenzy which impelled them to jump, to make frightful gestures, to utter shrieks and groans, which might be taken for demoniacal ravings."* This jumping was continued for many hours at a time. Four thousand people were within a very short time affected with this convulsive malady. The arguments adduced to justify this strange form of worship were that "David danced before the ark, that the babe leaped in the womb of Elizabeth, and that the man whose lameness was removed leaped and praised God for the mercy which he had received." Twenty years before this time, (1742,) a somewhat similar state of things was witnessed in the church of Mr. McCulloch, in the parish of Cambuslang, in Lanarkshire, Scotland, in which, during a state of much religious enthusiasm, a whole congregation was seized with violent excitement, evinced by shouting, by violent agitations of the body, clapping of the hands, beating of the breasts, by shakings and by trembling, by faintings and convulsions. Such was the enthusiasm created by this state of things, that 30,000 people assembled on one occasion to witness and participate in it. This lasted for six months, but, as was to be expected, such an excessive zeal soon consumed itself, and the good pastor had to bewail the subsequent wanderings of his flock.†

Our own country and our own age have not been exempt from strange nervous disorders closely allied to the dance of St. Vitus. In the library of the Pennsylvania Hospital may be

* Madden, *op. cit.*

† On some convulsive diseases common in Scotland. *Edinb. Med. and Surg. Journal*, vol. iii. p. 437, A.D. 1807.

found the original thesis of Dr. Felix Robertson, of Tennessee, long since a distinguished physician of that State. This essay was published in 1803, and was designed to give a history of the Epidemic Chorea then prevailing in the States of Kentucky, Tennessee, and Virginia. After referring to the blaze of religious enthusiasm which burst forth in the Western country about the year 1800, and which traveled like electricity so that it was felt almost instantaneously in every part of Tennessee and Kentucky, the author describes a series of remarkable convulsive involuntary movements which affected large numbers of those who had congregated together for worship. He says "the outward expression of their worship consisted chiefly in alternate crying, laughing, singing, and shouting, and at the same time performing that great variety of gesticulation of which the muscular system is capable." After a time a loss of control took place, and these enthusiasts "continued to act from necessity the curious character which they had begun from choice." This soon extended to the spectators, and in a little while spread over every part of Tennessee, Kentucky, and various parts of Virginia. It is said that the muscles chiefly affected were those of the trunk, particularly those of the neck, sometimes those of the superior extremities, rarely those of the inferior. The contractions were sudden and violent, and sometimes so powerful that the patient was thrown to the ground, where his motions were like those of a live fish thrown on land.

An account of a less violent but equally characteristic form of the same epidemic is given by the famous itinerant preacher Lorenzo Dow, in his Journal, published in Philadelphia, 1815.*

* Madden (op. cit.) quotes this Journal as follows:—

"I had heard about a singularity called *the jerks* or jerking exercise, which appeared first at Knoxville in August, 1804.

" * * * I began to speak to a vast audience and I observed about thirty to have *the jerks*, though they strove to keep still as they could; these emotions were involuntary and irresistible. At the house of a Nicholite, I observed his daughter to drop the teacup in great agitation, she having the jerks. After meeting I rode eighteen miles to hold a meeting at night; the people of the settlement were chiefly Quakers, and they had said (so I was informed) that the Methodists and Presbyterians have the jerks because they sing and pray so much, but we do not have them; however, about twenty of them came to the meeting to hear one, as they said, somewhat in the Quaker line, but their usual stillness and silence were interrupted, for about a dozen of them had the jerks as keen and as powerful as any I had seen, so as to have occasioned a kind of grunt or groan when they would jerk. It appears," adds the preacher, "that they undervalued the great revival, attempting to account for it on natural principles, there-

Phenomena not unlike those just described may even now be witnessed in the so-called camp meetings in different parts of our country. I have myself seen a whole congregation in a state bordering on ecstasy, swaying to and fro, shouting, groaning, leaping up and down in a manner not unworthy of the votaries of St. Vitus. What with exhibitions of this kind, and the extent to which the absurdities of the "spirit rappers" obtain among us, I fear we of the nineteenth century cannot plume ourselves on having escaped altogether, practices as unmeaning as those of the dancers around the fires of St. John in the fourteenth century.*

The history of convent life, in the fifteenth, sixteenth, and seventeenth centuries, abounds in the records of delusions, often ending in violent convulsive movements affecting their inmates. Beginning with a single individual, these soon were propagated by sympathy to great numbers of their associates. Such was the case in the Convent of Yveret, in the territory of Liege, in 1550, the members of which were seized with a nervous malady attended with convulsive spasms of the trunk and limbs, with leaping and jumping in the most remarkable manner. Numerous analogous cases might be adduced. In most of these cases the cause of the malady was referred to the malefic influence of some demon, and the unfortunate subjects were condemned to a cruel death as witches, or as in league with the evil one. A similar fate is recorded in the Medico-Chirurgical Transactions, vol. v. p. 20, et seq. A girl named Christian Shaw, aged eleven years, had violent fits of leaping, dancing, running, crying, fainting, etc. These fits continued from August, 1696, to the end of March in the year following, when the patient recovered. The whole being ascribed to witchcraft, we find it on record that by the deliberate verdict of a jury, three men and four women were condemned to the flames, and were burnt at Paisley, June 10, 1697.

Apart from religious frenzy, cases of analogous character are reported. Thus, in a paper

fore it seems to me that (from the best judgment I can form) God hath seen proper to take this method to convince the people that He will work in a way to show his power, and sent *the jerks* as a sign of the times, partly in judgment for the people's unbelief, and yet as in mercy to convict people of divine realities. I have seen Presbyterians, Methodists, Quakers, Baptists, Church of England, Independents, exercised with *the jerks*."

* The peculiar mode of worship of the "Shakers" would seem to have been derived from that of some of the sects we have described.

before alluded to, an account is given of the "Leaping Ague," as it was called, from the fact that those affected with it—

"During the paroxysm, have all the appearance of madness, distorting their bodies in various ways, and leaping and springing in a surprising manner, mingled with convulsive fits of dancing. Sometimes they run with astonishing velocity, and often over very dangerous passes to some places out of doors, which they have fixed on in their own minds, or, perhaps, even mentioned to those in company with them, and then drop down quite exhausted. At other times, especially when confined to the house, they climb in the most singular manner. In cottages, for example, they leap from the floor to what is called the baulks, or those beams by which rafters are joined together, springing from one to another with the agility of a cat, or whirling round one of them with the motion resembling the fly of a jack. Cold bathing is found to be the most effectual remedy; but when the fit of dancing, leaping, or running comes on, nothing tends so much to abate the violence of the disease as allowing them free scope to exercise themselves until nature is exhausted. In some families it seems hereditary, and I have heard of one in which a horse was always kept ready saddled, to follow the young ladies belonging to it when they were seized with a fit of running."*

In some cases it is said that the clattering of the tongs, or any similar noise, will bring on a fit. A somewhat analogous history is given by Mr. John Crichton, in the *Edinb. Medical and Surgical Journal* for 1829, p. 299, et seq.†

One of the most remarkable cases of dancing mania of modern times affecting a single individual, is that recorded in the *Medico-Chirurgical Transactions*, vol. vii. p. 237, by Mr. Kinder Wood. The account is much too long to quote in full; the principal facts are that the patient, a young married woman, after having suffered from various pre-

monitory symptoms, was seized with the most extraordinary involuntary movements. She was hurled from side to side of the couch-chair upon which she sat, was sometimes instantaneously thrown upon her feet, when she jumped and stamped violently. At times she was impelled forcibly into every corner of the room, and began to strike the ceiling, the furniture, and doors violently, the sound of which afforded her great satisfaction. She frequently danced on one leg, holding the other with her hand, and occasionally changing legs. Later, the movements assumed the regularity of a measured step, and the vivacity of the country dance. A drum and fife being obtained, the air to which she had danced being recognized, known as the "Protestant Boys," was played, to which she danced continuously until she missed the step, when her involuntary movements instantly ceased. This was repeated for some time, until it was positively ascertained that the movements could be checked by causing her to miss the step. In this way, by using two or more drums, the paroxysms were prevented, and eventually entirely checked. An interesting fact is mentioned which may be referred to as having some bearing on the pathology of chorea, that on the day of her convalescence an eruption appeared on her body, of a bright-red color, in patches, lasting three days.

It may, with great show of reason, be contended that the chorea of the present day is a disorder very unlike the dance of St. Vitus or the various convulsive movements which have been referred to. That there is mixed up with these involuntary movements much that is assumed; that hysteria, and perhaps temporary insanity, have often been associated with choreic movements, cannot be denied. These nervous diseases form a chain of great extent, whose distant links would seem to have but little in common; yet the careful investigator, while analyzing these compound disorders, will find the same elementary constituents in all, and may readily trace a regular gradation between the involuntary dances of the fourteenth and the involuntary jerks of the nineteenth century, between which and ordinary chorea the resemblance is of the closest kind. These gradations in disease cannot fail to remind one of similar gradations in natural science, as noticed in the different degrees of development in the highest and lowest of the vertebrata.*

* *Ed. Med. and Surg. Journal*, vol. iii. p. 434.

† Not to extend too much this paper, I shall content myself with quoting this remarkable case in a note. It was that of a girl, aged fifteen, who, having been frightened by thieves, became pensive and feeble, had attacks of shaking. At ten o'clock of each morning, she would hide all her trinkets, converse with her family, commencing her sentences with the last word, or pronouncing the words with the last letter foremost, or would write with great rapidity, beginning at the right edge and writing backward the last letter of the word first. These strange vagaries would continue from 10 o'clock until 1 p.m. At 1 o'clock she would begin to dance, jumping over tables, chairs, run round and round the edge of a table, then spring up, and squatting herself upon the top of the room door swinging backward and forward, occasionally leaping over stairways without injury. This condition would last an hour longer. At 2 o'clock she would fall into a deep sleep, and sleep three hours, and awakening would remain in a sound mind until next day at 10 o'clock, when the same round of performances would be repeated.

* Hecker devotes a chapter to another form of the dancing

The convulsive disorders occurring in convents which have been referred to, were, in many instances, associated with a belief by the subjects of them that they were transformed into the lower animals. Thus, in the convent at Cambrai, in 1494, a whole community of nuns believed themselves transformed into animals, running about sometimes like dogs, at other times like cats, counterfeiting their motions and their cries; fancying themselves changed into birds, and then striking out in the air with extended arms, as if about to soar into the heavens. In the Convent of St. Briget, in Flanders, about the year 1560, many of the inmates rushed about, uttering horrid sounds and noises like the bleating of sheep. In a convent near Paris, the members were attacked every day about the same hour, with an unconquerable propensity to imitate the mewling of cats, and were only cured by a file of soldiers posted at the gate of the convent with orders to charge on them on a repetition of their noises.

Under the varied names of *zoomania lycanthropia*, *lupus insania*, *lycaon*, *cynanthropia*, this strange belief in a transformation of men into the lower animals appears to have been recognized among all nations and in almost all ages. As the most remote in its phenomena from those of St. Vitus's dance, it may properly close this paper, already much extended beyond its intended limits.

In profane history we have allusions to such transformations in the metamorphoses of Ovid; in sacred history, in the account of that Judean king "who eat grass like the ox." One of the

oldest authorities in our own language, quoted on this subject by all modern writers, is Burton, who, in his *Anatomy of Melancholy*,* quotes largely from Aetius, Paulus Aegineta, Donat ab Altomari, Wierus, Forestus, and others, in describing *Lycanthropia*, or *Wolf Madness*.

Having access through the hospital library to the old Latin editions of the Fathers, the writer of this paper, though not wishing to be thought pedantic, has carefully consulted the authorities thus referred to. The results of this research add but little to the summary given by old Burton, and which is inserted below.†

Aetius,‡ who is one of the oldest writers on this subject and the most largely quoted, refers to still earlier notices of it. He states that the disorder prevails most in the month of February, and refers the ulcers on the legs to constant bruises and the bites of dogs. Not only is the tongue dry of those affected, but they do not spit

* The Anatomy of Melancholy. By Democritus Junior. 11th edition. 2 vols. London, 1813. page 13. [Mem. 1. Subs. 4.]

† "*Lycanthropia*, which Avicenna calls *cucubuth*, others *lupinam insaniam*, or wolf madness, when men run howling about graves and fields in the night, and will not be persuaded but that they are wolves, or some such beasts. Aetius and Paulus call it a kind of *melancholy*, but I should rather refer it to *madness*, as most do. Some make a doubt of it, whether there be any such disease. Donat ab Altomari (cap. 9, Art. Med.) saith that he saw two of them in his time. Wierus (De Praestigi Demonum, cap. 21, 1, 3,) tells a story of such a one at Padua, 1541, that would not believe to the contrary, but that he was a wolf. He hath another instance, of a Spaniard who thought himself a bear. Forestus (Obs., lib. 10, de Morbis Cerebri, cap. 15,) confirms as much by many examples; one, among the rest, of which he was an eye-witness at Alcmear in Holland. A poor husbandman that still hunted about graves, and kept in churchyards, of a pale, black, ugly, and fearful look. Such belike, or little better, were King Proetus's daughters, (*Hippocrates, lib. de insania*,) that thought themselves kine; and Nebuchadnezzar in Daniel, as some interpreters hold, was only troubled with this kind of madness. This disease, perhaps, gave occasion to that bold assertion of Pliny, (lib. 8, cap. 22,) that *some men were turned into wolves in his time, and from wolves to men again*; and to that fable of Pausanias, of a man that was ten years a wolf, and afterwards turned to his former shape; to Ovid's tale of *Lycæon*, etc." Other references are given, and it is said of the lycanthropes, that they lie hid most part all day, and go abroad in the night, barking, howling at graves and deserts; they have usually hollow eyes, scabbed legs and thighs, are very dry, and pale.

In Babbington's translation of Hecker, in which also this extract may be found, it is stated that Oribasius, who flourished 140 years before Aetius, was the first author in whom mention is made of lycanthropia. Burton might have added to the notice of Nebuchadnezzar that of the poor man whose history is recorded, Luke, viii. 27: "which had devils long time, and wore no clothes, neither abode in any house, but in the tombs."

‡ *Ætli medici Graeci contractae ex veteribus medicinis tetra-biblos*; interprete Jan Cornario, 1567. Ext. in Art. Med. Princip Tetr. 2, Sermo 2, p. 254.

mania, which is said even now to exist in Abyssinia, and is called *Tigrêtier*. He quotes largely from the narrative of Nathaniel Pearce, who lived in Abyssinia for nearly ten years, and whose own wife is said to have suffered from it. The chief points of interest in connection with it are, that beginning as a violent fever it turns to a lingering sickness, from which the patient can only be cured by the hiring, on the part of the relatives, of a band of trumpeters, drummers, and fifiers, under the influence of whose music the invalid, though perhaps reduced to nearly a skeleton, gradually begins to move, and after a time to dance violently, after which, and the performance of certain religious ceremonies, she is restored to health. The notice of this malady has been omitted from the text, from the fact that though Pearce is very positive in his statements, yet in a late number of *Archives Générales* I find the existence of *Tigrêtier*, as a disease, entirely denied by a recent writer from Abyssinia.

Still another somewhat analogous disorder is incidentally alluded to by Sprengel, in his History of Medicine, under the name of *Beriberi*, which, he says, exists among the Hindoos, and is the analogue of the dance of St. Guy. Good, in his "Study of Medicine," devotes a chapter to *Beriberi*, to which the reader is referred.

at all, and are very thirsty. Paulus Ægineta* quotes Aetius almost word for word. Avicenna† states that the lycanthropes are never quiet in one place, that their faces are jaundiced; he says the Arabians called the disorder *Chatrab*. Paulus knew an instance in which the subject of it spent the night among the tombs, but during the day attended rightly to his duties, not avoiding company. Schenckius‡ has a chapter *de Lycanthropia*, p. 147, and speaks of it as a species of melancholy, quoting Aetius and the others before referred to. He records the case of a shepherd who thought himself a wolf, and who leaped on and killed many lambs in the field. When captured, after much difficulty, he declared himself to be a wolf *with the hair on the inside of his skin*. To decide this matter some unfeeling person cut (*amputavit*) his legs and his arms, but finding him an innocent man he delivered him to the surgeons, but he died in a few days. Forestus§ tells of another who, having entered a church, when excited by rage leaped over the stools up and down, and was never quiet in one place.

The treatment of lycanthropia advised by Aetius, and which seems to have been adopted by the others before quoted, was, in the beginning of the attack to open a vein and draw blood, "*ad deliquum animi*," and to nourish the man with the juice of good food.

"He should also use sweet baths, and for three days after, the whey of milk. After this he should be purged with the hiera from colocynth, or other good purge, taking it again and again. After the purgations, the theriaca of vipers should be used, and other things which before have been mentioned for the cure of melancholy, should be exhibited. At night, when the disease is fully formed, irrigations to the head likely to induce sleep should be used, the nostrils also should be smeared with opium and such-like essences, and at the same time, somnifics in drink should be administered."

Avicenna goes further, and recommends that when the medicine and the cure do not keep hand in hand, that the patient's head and face should be struck so that he may feel pain, and that his sinciput should be cauterized.

* Pauli Æginetæ de re medica libri septem, (op. cit.) Lib. 3. p. 426.

† Avicennæ principis et philosophi sapientissimi. Libri in re medica qui hactenus ad nos pervenero. Venetiæ, 1563. Lib. 3, Tract 4, p. 478.

‡ Schenckii Observationes Medicarum Rararum, etc. Francofurti, 1699.

§ Donini Petri Foresti, M.D., Observationum et curationum morbi Italium ac Chirurgicorum opera omnia. Francofurti, 1634. Lib. I. Ob. 28, p. 348.

Madden (cit. supra) draws largely from various authors on this subject; he gives a chapter from St. Augustine's *De Civitate Dei*, "on the incredible transformations which Varro believes in;" in which, among other mythological curiosities, the transformation of the companions of Ulysses into beasts, and of the Arcadians into wolves, are referred to. Quoting *William of Malmesbury*, he gives the account of two old women living on the road to Rome, who kept an inn, and possessed the power of converting a traveler into a horse, a pig, or an ass, which, when a guest came alone, they did, to their own great gain, as they sold the same to dealers for a good price. One young man they changed into an ass, making much money of him, who, by a miracle, was thus destined for the use of travelers.

"He did not, however, lose his understanding, but his speech," [the reverse of what we generally see in young men who have undergone such transformations now-a-days,] "hence, the old women derived great advantage from the use made of him; which, being known, a neighbor bought the ass at a large price; he was cautioned, however, by the women, that he should keep the ass from going to water. For a long time he was kept without water, but at length, the keeper having relaxed in care, the ass betook himself to a lake and there rolling for some time, he (the young man) was restored to his proper form."

Absurd as it seems even to quote this story, it yet claimed the serious consideration of the sovereign pontiff, Pope Leo.

Our author also gives us the following account of the *wehr-wolves* of Germany, who would seem to have retained their ruling passion in their new shape, or at least to have had some method in their madness.

"Olaus Magnus revels in accounts of men converted into wolves. He states that on a certain Christmas night a troop of wehr-wolves congregated in a certain district, and caused the greatest terror and detriment to the inhabitants. They broke into houses in the dead of the night, descended into beer cellars, guzzled and emptied the casks into the middle of the cellar, and played the most brutal antics. And it hath been constantly affirmed, that among this multitude of wehr-wolves which ravage the northern regions, there are many magnates of this world, and men of the first nobility."

Equally absurd stories are told by Camden in his "*Britannia*," quoted as above, where, in the Annals of Ireland, under date 1341, he has the following:—

"*Item*. This wondrous prodigie following, and such as in our age had not been heard of before,

happened in the county of Leicester, when a certain waifaring man, as he travelled in the king's highway, found a paire of gloves fit, as he thought, for his own turne, which, as he drew upon his hands, forthwith instead of a man's voice and speech, he kept a strange and marvellous barking, like unto a dogge; and from that present, the elder folke and full growen, yea, and women too, throughout the same country, barked like big dogges, but the children and little ones waughed as small whelpes. The plague continued with some, eighteen days, with others, a whole moneth, and with some for two yeares."

These fanciful stories have been recorded in this place to show the great extent to which a belief in these transformations seems to have obtained among men of different nations and in all ages. To come back from the airy regions of witchcraft and of the imagination to the sober domain of truth, we have an interesting account, by Dr. Willis, of a family which he attended, in which five children suffered from a convulsive disorder, accompanied with very singular symptoms; all the patients barked, or rather howled, like dogs, so that they could be heard at some distance from the house. These, evidently, were cases of hysteria, of which we have other similar cases recorded. Madden closes his interesting chapter on Lycanthropy with copious extracts from Bogue's work, "*Sorcellerie des Lycanthropes ou Loups Garoux*," from which we learn that numbers of persons were burned in the sixteenth century, either as themselves "Loups garoux" or as causing such a condition in others. The whole chapter is an interesting one, and almost unique in its character.

On a final review of our subject, it is sad to discover that, with perhaps the exception of Lycanthropia, all or nearly all the morbid mental phenomena which we have considered have been associated with excessive zeal on the part of Christian worshipers, and by psychological nosologists have been grouped together as illustrations of religious mania. If the word religion be used in its strict etymological sense, it may perhaps be correct, but if in the ordinary acceptation of the term, such a classification is incorrect in its phraseology and unjust to the holy faith we profess. No mode of life which, under the plea of religion, sets at defiance the laws of our physical being, which prevents the healthful play of our intellectual and social feelings, whether it be in the unnatural solitude of the convent, or the stern asceticism of domestic life, can produce a sound and healthful religious growth, or the re-

sults of such a life be justly quoted as the natural fruits of that religion whose highest aim, next to the glory of God, is to promote the well-being of mankind, and whose ways, we have the highest authority for believing, are ways of pleasantness, as her paths are peace.

We have seen the melancholy results of such a disregard of physical laws in the mad practices of the Flagellants, in the convents of Cambrai and Briget, in the inhuman practices of the Anabaptists, in the absurdities of the Convulsionnaires of Jansenius and the Jerkers of our own land.

These results are peculiar to no one sect or age, but must occur whenever the larger or the smaller wheels of the complex machinery of life, which, by nature, work together in such beautiful and divine harmony, are moved in disregard or in defiance one of the other.

We may, perhaps, be told that the Christian is enjoined by the Author of his faith "to mortify the flesh;" but have we authority for believing that by this more is meant than a healthful restraint upon uncurbed propensities and unbridled passions, the indulgence in which, while jeopardizing the safety of the immortal soul, cannot fail sooner or later to ruin that fearful and wonderful mechanism—the human body?

Every physician in his practice must have witnessed the baleful effects of such sensual indulgence as that we have last referred to, the gratification of the physical man to the entire neglect of the psychical. Are there not many who, like the writer, too frequently have seen the sad consequences of a mistaken austerity of faith, which by ignoring the requirements of the body—exercise, cheerful recreations, amusements, the genial company of friends—has been followed by a morbid condition which has tinged with its own dark hue all the religious views of its victim; substituting for the cheering hopes of the Gospel the gloomy and fearful anticipations of a distempered imagination? It is to a condition such as this, as has already been remarked, that we owe the repulsive practices which we have described, when men mistook the cravings of a diseased body for the promptings of an enlightened soul—no more striking illustration of which could be afforded us than by the sect so aptly described as penitent fanatics and "*atrabiliales*."*

* Vide "Histoire des Egaremens de l'Esprit Humain." (Clt. supra.)

"A poet of our own language has thus tersely described this morbid state:—

"Men think they're pious
When they're only bilious."

We build large hospitals for those whose reason has been dethroned; we supply these infirmaries with every restorative that medical skill or inventive genius can suggest. Their halls are hung with pictures to tempt and gladden the eye; the cheering strains of music greet the invalid's waking hours or soothe him to sleep, when weary of the day; riding, driving, games, amusements of various kinds are offered to divert him from the contemplation of himself and his infirmity; healthful and diversified food for body and mind is supplied him, until with a restoration of his physical health, reason resumes her throne. May we not from all this learn the lesson, that as it is better surgery to save a limb than to amputate it, so it is far nobler to save a mind, by bracing its timbers and furnishing it with proper and diversified supplies, than to rebuild by the very same means its shattered and unsightly wreck?

In thus doing, we shall often find that the most healthful moral development will be found in the highest physical condition; and must we not believe that that worship will be especially grateful to the Author of our being which proceeds from a sound mind in a sound body?

Believing as he does that there are seasons in the life of every one when amusements for body and for mind are positively necessary, and using the terms music and dancing as generic terms for such healthful recreations, the writer is quite prepared to apply the words of good old Baglivi, when describing the *Tarantismus* of his time, to that idiopathic tarantismus, if the term may be permitted, of the existence of which in our day we are all painfully conscious.

"If the Patient happens to lose the Season of Dancing, then he will be under very grievous Symptoms all that Year; such as a jaundice color in his Skin, sickness at heart, want of Appetite, a Slight Fever, and the rest of them which we have already mentioned over and over. Further, if he eats any Weather Mutton, Cucumbers or Citruls he is presently seiz'd with a grievous Pain in the Stomach. But then if he makes use every Year of the Season for Dancing, and by Sweating and the Sound of Music throw out the Seeds of the Poyson he holds very well all that Year, and is not liable to any of the forementioned Symptoms."

Palatine Defects and Their Treatment.

BY JAMES E. GARRETSON, M.D.,

Of Philadelphia.

DISEASES OF THE MOUTH—Continued.

In the treatment of any palatine defect, the first consideration is to be of its cause and condition. Thus it will be found that such defects or deficiencies may, by influencing circumstances, require treatment so modified or changed as to seem, in cases apparently similar, quite at variance with each other.

For example, let us take two perforations exposing the nares; one congenital, the other the result of disease. Now in the first of these cases we might adopt any operation or appliance which would seem to promise relief; while in the second we might justly pause at any interference. No one in his senses would attempt the operation of staphyloraphy on a patient laboring under acute syphilis, or where a mercurial course had so broken down the crasis of the blood as to make union by the first intention impossible, or even doubtful. No more would he be justified in attempting this or any other of the operations of expediency, with the constitutional conditions adverse to success, than he would be justified in avoiding the responsibility where such influencing conditions were favorable.

Constitutional associations are first, therefore, to be inquired into and considered. In this direction, of course, I can have nothing to suggest. The practitioner who attempts surgery is presumed to have all required familiarity with the great principles of practice.

The condition known as cleft palate, to which we at once pass, may, from its exceeding frequency, be the first to claim our attention. A cleft palate may be partial or complete, that is, there may be a simple lengthwise division in that portion of the mouth known as the soft palate, or the cleft may be so extensive as to extend from the uvula to the lip, a fissure separating both hard and soft parts existing. The first of these two conditions is found perhaps most frequently as the result of disease, the latter is nearly always congenital. Indeed I do not recall a single case where I have met complete fissure as the result of disease. I have treated fissures produced by syphilis where there was the break both in the bone and in the soft palate, but never that I remember where a coexistent break existed in the continuity of the lip.

Fissure of the hard palate, the result of disease, differs, however, from congenital fissure in a particular which I think would scarcely allow of the surgeon being deceived. A fissure the result of disease exhibits a break in the continuity of one or both palatine bones; a fissure having congenital origin exhibits, so far as my experience goes, the deficiency at the line of contiguity or in the palatine raphe—this at least as the rule.

Let us first consider the condition and treatment of the congenital cleft. A child is born, toward whose mouth attention is first directed either by the nasal character of its cry, or a little later, by its inability to take the breast properly, or, what is by great odds much the most frequent case, the condition is marked by the break continuing through the lip, giving the deformity known as hare-lip.

When a child is thus unfortunately born, and the attention of the surgeon is called to the case, it seems to me there is but a single question presents itself for his consideration, namely, how the deformity may be corrected; suffered to exist, every day will increase the difficulty of the cure, that is, as the most formidable part of the operation is involved, while if at once attempted, the prospect of complete success is very great.

Fissure of the hard palate has generally been deemed irremediable, as far as operative means are concerned, and the surgeon has learned to consider his whole duty done in describing to the parents the method which in after-life is to conceal and correct the trouble of his patient. Now in this paper I shall present a remedial surgery which is as practicable and feasible as any other of the operations of expediency, and perhaps I am justified from experience in going so much farther as to say that the modes of procedure will be found much more promising than the majority of such operations. Through the proper application of mechanical, allied with the more strictly surgical means, I have not unfrequently succeeded in effecting changes in the young maxillary bones, a simple description of which might cause my veracity to be doubted; and yet this ability to effect such changes must become very plain to us, if for a single moment we pause to consider the difference in the composition of the young and old bone. The young bone, or bone at birth, as we remember, is almost if not quite half made up of animal material; while in the osseous structure of the adult we have an excess in the limy, the unyielding material, of from

seventy-five to perhaps quite eighty-five per cent.

Let me refer to that old experiment of the maceration of bone in dilute muriatic acid, to more familiarly illustrate this yielding constituent of bone. We know, if we subject a bone to the action of this acid for one or two weeks, that we may tie a rib as a whip-cord. Now we do this simply by reducing an old bone to somewhat the condition of young bone. I have removed a rib from a living young cat, and played with it in this same whip-cord manner. I have perceptibly bent the femur of a young child; but no one, I imagine, ever performed such a manipulation on the healthy femur of the adult. You may take an inferior maxillary bone, even in the child of fifteen years, where the projection of the chin is so great as to yield deformity, and with a properly-constructed vertico-mental elastic sling you may, in a period varying from three weeks to as many months, so change the angle of the bone as to do away entirely the deformity. You may take the projecting myrtiliform fossa, and through the instrumentality of the occipito-alveolar sling, you may in quite a short period compel it to a natural articulation. On this known yielding character of the young bone, therefore, operations for the correction of congenital fissures of the hard palate may be founded.

A congenital fissure of the hard palate may be corrected instantly, or the cure may be effected slowly. The first of these procedures is applicable to such cases as present only a quite limited separation of the bones; the latter, when the fissure has considerable width.

The operative procedure for the immediate cure is as follows: An instrument for the compression of the jaw is first to be prepared. On page 631 of Professor Gross's work on surgery is the drawing of an arterial compressor invented by that gentleman, which, modified in two particulars, would answer the purpose very well. Such required modification will be readily understood when the steps of the operation come to be studied. They would consist—first, in diminishing the size of his instrument; and second, in having two oblong and curved pads, instead of the single bulbous and round one there represented, these pads being so arranged on the beaks of the instrument that when applied they would yield the lateral pressure required.

Still another instrument, and a better, for this purpose, because more simple, and with the ap-

plication of its force more direct, is the Hoey clamp, represented on page 868 of the same work. The only modification needed in this instrument is in the shape of the compresses or pads.

The instrument ready, (the patient being in proper condition,) the operator commences by paring soft parts and bone on both sides of the fissure, beginning on the approximal faces of the palate bones, and cutting forward to the alveolar face of the chasm. This part of the operation completed, the little patient may be allowed to rest until the parts stop bleeding. The next step is to re-etherize the child and apply the compressor, the curved pads embracing the buccal faces of the alveolar arch; by gradually turning the screw of the instrument, the yielding bones are brought together. The next and last step in the operation is to retain the parts in position by the use of compresses placed upon and below the malar bones, and secured by adhesive strips applied as in the occipito-labial cravat of Mayo.

It may be objected to these manipulations, that they are formidable and too heroic; that fractures may result, etc. On these points the surgeon must decide for himself. I can only answer that, if carefully performed, it is not a dangerous operation; fracture of the bone, even if it should occur, would be of little consequence, as the parts have to be kept, as it were, in splints at any rate, and consequently the treatment of the one would be the treatment of the other. The most marked risk would be from an inflammation that might be provoked; but a surgeon not unfrequently has to run much greater for even a less result.

Another mode of securing the same end, and which is entirely divested of formidable risk, is as follows: Take a circle of India-rubber tubing, the circumference of which shall be about one-third or one-half that of the child's head; next prepare two firm compresses, of a size adapted to the case under treatment; place then pads, or compresses, one on either cheek, in such position as will give them their rest on the buccal faces of the alveolar arch. These being secured in place by one or more delicate strips of adhesive plaster, take up the ring of rubber and pass it around the cervico labial diameter of the head. Passing over the compresses, it will thus exert, as is seen, a gradual pressure, serving to push the bone toward a common center, this center being the mesial

line of the palatine arch. This process is a gradual one, but, if the patient is young, I think it will be found to succeed; the only real objection to the manipulation, that I can see, is the constant care necessary to prevent excoriation of the tender skin.

When, by this procedure, the bony parietes have been brought into contact, the operation, so far as the hard palate is concerned, is completed by simply paring the folds of the mucous membrane. It may or may not be necessary to coaptate them; if the bones have been brought very closely together, the granulations will alone be sufficient to bridge the slight chasm.

In either of these operations it is seen that the break, both in the soft palate and lip, is not remedial. It is well, I think, not to attempt the cure of the lip until the patient has entirely recovered from the forerunning operation. It may then be performed, and, if done according to a rule I shall hereafter suggest, will secure to the patient a lip so perfect that, in adult life, perhaps, no mark of an operation will exist. The operation for the cleft in the soft palate must be left to a period later in life, for reasons presently alluded to.

These suggestions for the cure of cleft in the hard palate were, I thought, original with myself, though it is of the least consequence who invents an operation, so that it is good; but in the periscope department of the *Dental Cosmos* I find the following extract, made by Dr. Ziegler, from the *Australian Medical Record* and *Dublin Medical Press*, which shows that the operation was conceived by another before it presented itself to my mind. The extract is a short one, and so apropos to the matter, that I shall take the liberty to present it entire:—

"Pressure in the Treatment of Cleft Palate.

—I am not aware," says the author, "that the subject of using pressure in treating fissure of the palate has been before suggested. I am inclined to think that it has not; for when the plan first presented itself to my mind in 1851, I carefully examined French, German, English, and American works to see whether it had. I was first led to try it on the dead body of a child, which had died three weeks after birth. The fissure was longitudinal, and large enough to admit the extremity of the little finger; fissure of the lip also existed. By means of a pair of clamps, the sides of the fissure were brought readily in contact, without any fracture or displacement of the bones; the only fault was that the gums of the upper jaw were within those of the lower; but Nature would modify this as the living child grew up; the use of pressure on the lower jaw would remove a great

deal of this deformity; of course the amount of deformity would depend on the size of the fissure in the palate. I several times repeated the experiments on young dogs, removing a piece of the palate bone by means of Hey's saw, and then applying the pressure. The animals did well.

"The operation should be performed as early as possible after birth, when the bones are in their softest condition. The following is the plan which I would suggest: The edges of the fissure having been pared, the superior maxillary bones should be embraced by a horseshoe-shaped clamp, with a shelf on its lower border to receive the gums and prevent it slipping. It should be padded with India-rubber or some other material to prevent the germs of the teeth being injured. The clamp should work on a joint, and possess arms. It may be said to resemble a large pair of pincers with horseshoe-shaped blades. A screw may be attached at the extremities of the handles, for the purpose of bringing the blades in contact, or the hands may be used: the former would be, I think, preferable, as the force could be applied gradually, and not be likely to be carried too far. It may also be employed in grown-up children, when the bones are so widely separated as to render it difficult to get soft parts enough to close the opening, but in a gradual manner and at intervals, more or less prolonged, according to the amount of pain it excites. If it were used suddenly it might produce inflammation, and subsequently abscess, which would prove troublesome to treat. From the foregoing it will be, I hope, understood that the younger the child the safer the operation is likely to prove, and that even in grown-up children it may be adopted, with precaution, with decided benefit.

"The pads and the ledge to rest the teeth upon should be made to slide in the sides of the clamp; the former, that the pressure may be directed on any part of the bones; the latter, that the edges of the teeth may rest on it, without the pressure being directed either too high or too low, but at the point where the palate bone joins the superior maxillary."

We pass now to the consideration of the treatment of the fissure in the soft palate. This operation is known as staphyloraphy, deriving the name from two Greek words, which signify suture of the uvula. As generally practiced, it is an operation rather difficult of performance, and so frequently unsuccessful that surgeons seem disposed to avoid the responsibility of it. I propose here to suggest for consideration a new mode of doing the operation, and which, I will take the liberty of saying, render the manipulations as easy of accomplishment as, by the old mode, they are found tedious and difficult.

Preparation of the patient.—For weeks before it is designed to do this operation, preparations are to be made for it, by subjecting the parts to

such daily manipulations as shall educate to forbearance the natural sensibility of the fauces. Without such preliminary manipulation, theretchings and spasmodic twitchings would be such as to render a proper performance of the operation almost an impossibility. With such an education the parts will be found to assume, in a reasonable time, quite a stoical indifference to even quite severe irritants. This forbearance is secured by roughly fingering the part daily. I think it is not amiss to occasionally pass the point of the tenaculum through the parts to be operated upon. I never knew the trifling wound to give any trouble, and you gain the double advantage, if you put the part on stretch, of securing an estimate of the capability of the velum to be brought to the mesial line, an important item in the operation, as will be easily appreciated. Some surgeons are in the habit of daily tickling the parts with a fine brush; this, I should suppose, would answer a very good purpose. A very admirable idea, and a most successful one, is to have made an obturator,* which shall extend back to the palate border, or nearly to it. This is to be placed in the mouth, and as soon as the irritability it produces is so far overcome as to permit of its permanent retention, the bands attached to it are to be clasped firmly about the necks of the teeth, and it is worn continuously for one or two months. When the parts have thus submitted to the presence of an obturator, they will be found quite ready for any operation.

On the evening before the day of operation let a saline cathartic be given the patient—particularly if he is robust and strong. The meal immediately preceding the performance should, I think, always be a good substantial one, for it is to be remembered that the patient is to have little to eat for some time.

In operating on the depressed and anæmic patient, let his deficiency in vital forces be first considered, and, as far as possible, let it be corrected. If such attention is neglected, you will be almost sure to make a failure, the parts will not unite. Exercise in the open air, generous living, and the iron tonics may be prescribed. To sum all up in a single sentence, the preliminary treatment must meet the indications of each particular case. If, for example, you should operate on a scorbutic patient, or a patient disposed to purpura, with-

* A description of this instrument, and its proper use, will hereafter be given.

out correcting such dyscrasis, you would be no more likely to gain union of the parts brought together than in an operation on the cadaver.

The surgical anatomy of the part is required fully to be understood. So much of success depends on a thorough knowledge of the muscular relation to the cleft, that such acquaintance would give a success where otherwise a failure would be sure to result. This anatomy we may study before taking up the steps of the operation.

To get a correct idea of the soft palate, we should commence the study of it, by first carefully examining the parts on the living subject. When we look into a living mouth we see an arch stretching from every portion of the alveolar edge backward and inward, toward the fauces, terminating in a tongue or uvula, pendant in a horizontal direction from its center. One-half of this arch is seen to be fixed, the other—the posterior half—is seen to be in almost constant motion. If, now, the finger is carried into the mouth, the fixed part is found to correspond with the boundaries of the palatine faces of the maxillary and palate bones; that is, for a certain extent, you feel that the parts are solid, as if the finger passed over an arch of bone which might be covered alone by mucous membrane; and this is, in fact, about the case. The finger traverses the anterior bony border of the mouth or the hard palate. As, now, the finger is passed backward, it falls over a hard ridge upon parts that are soft and yielding; this hard ridge is the posterior face of the palate bone, and terminates the hard palate. The parts upon which the finger has fallen is the veil or soft palate, the part that was observed to be movable. This is the part in which occurs the rent or cleft, for the cure of which is demanded the operation we are about to consider.

The mobility of this part, and which pertains to its function, depends, as may be anticipated, on an associated muscular structure. To study properly this structure, and which is all-important to be practically understood and appreciated, the student should take up the scalpel, and pass to the cadaver; it is, perhaps, only by dissecting that a really satisfactory idea of these muscles can be secured; that is, as pertains to that kind of knowledge which gives confidence when we come to perform operations upon the part.

The external coat or covering which we see on every mouth, living or dead, is the mucous membrane; simply the continuation of that which covers the hard palate; but, while in the case of

the hard palate we find all the underlying structure osseous, in the soft palate we discover this deep tissue to be made up exclusively of muscular tissue—at least as far as surgical anatomy is concerned, or as it alone serves our purpose here to study it.

Commencing with the mesial line, we can dissect out the attachment of five muscles, each of which is, of course, duplicated on the opposite side, and each of which has such relation to this mesial line that, in case of cleft or split, it serves more or less to draw away the parts posteriorly.

These muscles, mentioned in the order of their signification to this lateral displacement, and consequently in their relation to the operation of staphyloraphy, are tensor palati, palati glossal, levator palati, palati pharyngeal, azygos uvulae. But of all these muscles the tensor palati plays the most important part, and is, therefore, entitled to closest consideration.

This muscle arises from the scaphoid fossa at the root of the internal pterygoid plate, from the anterior surface of the Eustachian tube, and from the spinous process of the sphenoid bone. If you carry your finger (in your own mouth) back to the wisdom tooth of the superior jaw, and let it drop over and back of this tooth, it will fall on the tuberosity of the maxillary bone; carry it now half an inch farther back, and it will come to a second prominence; this is the hamular process of the pterygoid plate of the sphenoid bone. Now the tensor palati muscle descends from the origin of which we have just informed ourselves, and meeting this hamular process, it winds—as a tendon—around it, and then, by a fan-like expansion, spreads itself over the soft palate. Its action is evident; it expands laterally the palate.

Now to do successfully the operation for cleft palate, it is perhaps desirable, in every single case, that the strain made by this muscle should be taken off. A moment's reflection will show us that the action of the muscle, in case of a cleft, would, when the parts were brought together, be much increased over its natural capability, not only because it would be put considerably on the stretch, but because such stretch would, more than likely, excite it to a spasmodic contraction. The muscle, of course, then is to be divided; and we may as well here, as anywhere, consider the easiest point at which such preliminary operation can be done.

We remarked, of the muscle, that it would be

found winding—as a tendon—around the hamular process. It winds from the back, and outwardly, inwardly, and forwardly, so that just in front of the process, between it and the tuberosity, is the convenient place at which its section may be best performed; there are here no important vessels to be wounded, if we except the posterior palatine artery and nerve, and they so closely hug the base of the tuberosity that it would, I think, have to be a very badly managed knife that could possibly interfere with either of them. The cut should be a little oblique. The interference with function, as in all cases of myotomy or tenotomy, would be, of course, but temporary. The action of the muscle would be found recovered quite as soon as our cleft operation would be ready for it.

The next most important muscle is the palati glossal; this is simply the anterior half arch, the constrictor isthmii faucium. It arises, as will be seen, from the soft palate on either side of the uvula, and, passing outward, is inserted into the sides of the tongue, blending with the fibers of the stylo-glossus muscle.

The palati pharyngeus arises from the soft palate, by an expanded fasciculus, and, passing outward, goes to be inserted into the posterior borders of the thyroid cartilage. These muscles constitute the posterior half arches. Section, both of the palati pharyngeus and palati glossal, is to be made through the substance of the muscle, and is accomplished simply by nicking, somewhat deeply, the arches; four cuts—one to each arch. These nicks are best made with the scissors.

To be continued.

Physical Signs of Pulmonary Tuberculosis; their Practical Value as Means of Diagnosis.

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PART FIRST.

There are many physicians who can remember the period in their medical history, when the physical signs of chest diseases were but little known or understood. The great mass of the profession were groping their way in the dark, without scarcely a ray of light to guide them to a correct diagnosis. And even after the art of auscultation had made considerable progress, and its utility had been clearly demonstrated, there were not found wanting men in the profession who

would reject its teachings, and ridicule those who practiced it.

I remember, when a student in the City of New York, of hearing a distinguished physician give his opinion of auscultation in this wise: "It is," said he, "a tube made of wood, with the chest of a fool at one end, and the ear of a knave at the other." Such was the contempt with which this valuable art was treated twenty-five years since, by some of the most prominent medical men in our country. But happily for medical science the day is past, when any respectable member of the profession will stand up and seriously controvert its utility. Its importance is universally admitted.

In this article, we propose to call your attention to a brief description of some of the more prominent physical signs of pulmonary tuberculosis, and their practical value as means of diagnosis. They may be classed under three heads, namely—1st. Inspection. 2d. Percussion. 3d. Auscultation.

1st. *Inspection.*—When we are to examine an individual's chest, we prefer that he should be in the sitting posture, and placed in such a position that we have an abundance of light. It is also proper that all the clothing should be removed from the chest, particularly in males; in females, decency requires that it should be covered with some material that will not obscure its motions—a common dressing-gown of thin cotton will answer a good purpose. When thus placed, we may stand in front of the patient, at such a distance as we can scrutinize the motions of the chest carefully.

In health, if there be no deformity of the chest, the expansion of the two sides are equal, and its symmetry complete. And it requires considerable tubercular, or any other consolidation, to produce any irregularity either in its motions or shape. But, when we do perceive a slight difference between the two sides, the upper ribs do not move so much on one side as the other. And it may be laid down as a fundamental principle, which has been verified by universal experience, *that the movements of the chest become restricted in freedom, and altered in character, in proportion to the quantity and extent of tubercular consolidation.*

In the commencement of pulmonary tuberculosis, where there is but very little matter deposited, and contained within a small space, or, as is sometimes the case, scattered widely through

the lungs, it is evident that very little or no appreciable difference would occur in the expansion movements of the chest. But, as the disease advances, the expansion movements are generally not so strong or free; and it is not a very uncommon thing to find cases where, from extensive tubercular infiltration, one side of the chest is almost motionless. The irregularity of motion, however, is mostly confined to the superior part of the affected side, and keeps pace with the progress and extent of the internal lesion.

We also, sometimes, notice in this disease that, after the expansion movements have ceased in the affected side, it will look contracted, and the well side will have the appearance of being elevated. The first is real, while the latter is not. We should not, therefore, place too much confidence in this appearance as a sign of phthisis, for it is frequently present in other diseases of the chest; but, when associated with some of the other signs about to be described, its significance is greatly enhanced.

2d. Percussion.—The best position in which a patient can be placed, for percussing his chest, is standing, if he is able, with his shoulders resting against the wall of the room. If he is too feeble to stand, let him sit in a chair, high enough in the back to support the shoulders. Or if, as it frequently occurs, the patient is unable to rise from his bed, see that all the pillows are removed, and that he lies upon his back, and on a mattress. The chest should be fully exposed, with those exceptions named under the first head. When the anterior part of the chest is to be percussed, we generally prefer that the patient should put both hands upon the back of his head, and when the posterior is percussed, with the arms crossed equally upon the breast; in this manner the muscles of the chest are rendered tense, and the different sounds are more easily elicited.

In the incipient stage of tubercular consolidation, the resonance of the chest is but very little diminished on percussion. But as the lungs become more indurated, dullness is one of the most prominent signs. In this disease, the most numerous and largest tubercular deposits occur at the apices of the lungs, and generally more on one side than on the other. Hence the clavicle on one side, when lightly struck on its center, may yield a sound duller than the other; if this should be the case, it is quite probable that there are indurations in the lungs.

Great care must be taken to percuss both sides

of the chest at the same point, or the comparison will not be correct. To avoid error, various kinds of percussion should be used, particularly in doubtful cases. We have more confidence in *immediate percussion* than mediate. The tapping may be conducted at first with a single finger, then with the flat of several fingers, and in different stages of the respiratory act, on a full breath, and after exhausting the lungs. Sometimes the gentlest patting of the subclavian space is the only mode in which any difference can be discovered.

When percussion elicits dullness under the clavicle, we generally find that it diminishes as we pass a little lower down in the chest. Thus, on the first rib, we have a perceptible dullness, while on the second, or rather the third, we have a natural resonance. This is the case, so long as the induration is confined to the upper part of the superior lobe, but when it includes the whole lung, the dullness is pretty generally distributed over the entire side. This is more particularly the case from pneumonic consolidations. It sometimes occurs, that both lungs become equally affected with tubercular deposits. When this occurs, we lose, in a great measure, this important means of diagnosis, especially when we institute a comparison between the condition of the two sides. We, therefore, make the following inferences:—

1st. Dullness on percussion is a sign of induration in the lungs.

2d. Its location sometimes points out the nature of the induration.

3d. When situated only at apex of the lung, we may conclude that it is tubercular.

4th. That it points out the extent of the lesion.

5th. That it can only be taken in proof of pulmonary tuberculosis as it is found associated with other signs and symptoms of the malady.

3d. Auscultation.—There are two kinds of auscultation employed by physicians in detecting diseases of the chest, viz., immediate and mediate. We generally employ the latter, and the instrument which we have been in the habit of using for several years is Dr. Camman's Double Self-adjusting Stethoscope. This instrument is so constructed that it intensifies all the sounds of respiration to a great degree. Healthy sounds that cannot be heard by the naked ear, become quite manifest by using it. So also morbid sounds that are not recognizable by the ear, become quite audible while using this instrument.

The reasons for this intensity of sound appear to be—1. Both ears of the observer are acted upon at once. 2. The ear pieces of the instrument fitting tightly to the meatus of both ears, all external sounds are more thoroughly cut off, and the mind of the auscultator is thus forcibly drawn to the phenomena taking place within the chest. To the physician, therefore, who is dull of hearing, I consider it an instrument of great value and indispensable utility in exploring the chest, and detecting the various diseases which affect the pulmonary organs.

In describing the various auscultatory signs of pulmonary tuberculosis, we will notice them in the order in which they usually manifest themselves in the different stages of the disease. In the first stage we have:—1st. Prolonged expiratory murmur. 2d. Wavy inspiration. 3d. Dry crackling.

Second stage:—Humid crackling.

Third stage:—1st. Cavernous respiration. 2d. Pectoriloquism. 3d. Crack pipkin sound. (Percussion.)

1st. *Prolonged expiratory murmur.*—This is the earliest sign elicited by auscultation, of pulmonary tuberculosis. When we examine the chest of a healthy individual, we find, with few exceptions, that the expiratory murmur is very slight, and very little more distinct in any one part of the chest than another. The lungs naturally are very elastic, and this elasticity is necessary to soft and uniform breathing. Now when any considerable portion of their textures become consolidated by tubercular deposits, the harmony of their action is destroyed; bronchial expiration is greatly promoted; but between the state of health and decided consolidation there are various intermediate conditions.

Thus when the air-cells are but slightly thickened by tubercular infiltration, bronchial expiration is not induced, but as they become more affected they render the respiratory murmur more audible. When there is no obstruction in the pulmonary air-cells, the inspiratory murmur occupies the whole time of inspiration; but the expiratory murmur does not occupy more than one-fourth of the time of inspiration. Hence it has been found that with the progress of phthisis, the duration of the expiratory murmur usually lessens materially, and the expiratory is sensibly prolonged, so much so, that instead of only occupying one-fourth part of the period of healthy inspiration it may come to exceed it in duration.

Some writers place but very little value upon prolonged expiratory murmur as a sign of pulmonary tuberculosis. They tell us that it is surrounded with so many qualifications that it cannot be relied upon as possessing any value as a sign of the disease. May not the same be said of nearly every other sign? for they are all to be guarded with exceptions. And we are fully satisfied, from personal experience, that where this sign is absent, the existence of tubercular deposits in the lungs cannot be affirmed with any certainty. We do not, however, pretend to say that we may not occasionally meet with a case of phthisis where it is absent, and that it may occasionally occur in other disorders of the chest, but we do maintain that prolonged expiratory murmur is an outstanding sign of pulmonary tuberculosis, and in the first stage of the disease is more to be relied upon than any other.

2d. *Wavy or jerking respiration.*—Any condition of the lungs that will prevent their free expansion will occasion the phenomenon of wavy or jerking respiration. Thus quite opposite causes may produce it, such as pleurisy, asthma, and various affections of the heart and nervous system. It is generally revealed during inspiration, and consists of a variety of puffs or jerks instead of the regular and smooth breathing of healthy inspiration. It is often met with in the first stage of pulmonary tuberculosis, near the apex of the lung, but is of no especial value as a sign of the disease, only as it is found in connection with dullness on percussion, prolonged expiration, and Thompson's gingival margin.

3d. *Dry crackling.*—This is commonly one of the earliest signs of tubercular deposits in the lungs. It is usually heard at the apex, mostly in front, and consists of several sharp, dry, explosive, and distinct crackling râles. It is most commonly heard at the completion of inspiration, and requires a forcible act of respiration for its development. Thus, on making a forced inspiration it may become distinctly audible. Sometimes this forced inspiration will develop only a single râle, at other times three or four, which will startle us by their clear, dry, and metallic sound.

When this sign is once fully developed, its persistence is constant, although it may be more manifest at one time than another, and it seldom ever ceases entirely until it passes into what is termed humid crepitation, or moist crackling rhonchus, which is its natural tendency. As the

disease advances, and the lungs become more occupied with tubercular deposits, dry crackling may be frequently heard during ordinary respiration. When it becomes thus manifest, it is one of the most unfailing proofs of pulmonary tuberculosis that we can have.

There are several other physical signs of the first stage of phthisis, that have been described by writers, such as pulmonary crumpling, cogged-wheel sound, and tubercular crepitation; but they are of so little value as means of diagnosis, that we will not occupy space with their description. Those already noticed are sufficient for all practical purposes, and he who becomes thoroughly acquainted with them, will have better success in detecting the disease than he who has but a vague and superficial knowledge of twice the number. Knowledge of any kind to be of use must be simple, definite, and positive. We need more of this kind in the practice of medicine, and when we have it the profession will become more united, and more proficient in their efforts to cure disease.

PART SECOND.

The physical signs connected with the softening of tubercular matter are not very prominent. Indeed, I know of no one that is positively indicative of it. It is to be supposed, however, that all the signs that pertain to the first stage will in this be either increased or modified, while others will be added. The inequality of the respiratory movements and the dullness on percussion are now generally more marked, the respiration more obscure, or more bronchial, and accompanied by permanent *humid crepitation*, which is generally indicative of tubercular softening. When this takes place, we may look very soon for some of the signs which belong to the third stage of the disease; particularly:—

1st. *Cavernous respiration*.—This is a hollow sound, especially when the cavity is large. Some writers have compared it to an exaggeration of bronchial respiration. As soon as a portion of tubercular matter is discharged through the neighboring bronchial tube the cavity has commenced, and the sound produced through these little cavities may be of various kinds. It may be, and often is, a mere click, like the opening and shutting of a valve; or a chirp, or a crackling; but all these sounds, under certain circumstances, denote the formation of a cavity, and for convenience sake have been all included under one name—cavernous respiration. For brevity it is

sometimes called *clicking*, as this is frequently the most prominent feature of the sound.

The various sounds in cavernous breathing are owing to the difference in size, form, and situation of the cavities, and to the different condition of the surrounding lung. A cavity may be very large or small, several bronchi may open into it, or only one. It may be a simple cavity, or it may have several chambers. Its sides may be condensed and equal, or rough and rugged. The lung around it may be solid, or pervious and vascular. It may be near the ribs, or far from them; adherent to, or separated from the pleura. It is quite obvious that these differences in condition are calculated to modify the sound, which will nevertheless be always such as to indicate a cavity, particularly when distinctly heard at the apex of the lungs.

Cavernous breathing is also sometimes associated with other lesions of the chest, such as bronchial dilatations, and pneumonic cavities. But at the period of pulmonary tuberculosis now under consideration, there are so many other physical signs connected with it, that we need not be in much doubt as to the true import of its teachings. In tubercular cavities, clicking is almost uniformly heard at the apex of the lungs, while in bronchial dilatations and pneumonic cavities, it is heard much lower down. The sound of clicking is best obtained by quick, forcible respiration or slight coughing, which increases the force and velocity of the passing air, and exaggerates the sounds.

2d. *Pectoriloquism*.—This is another very prominent sign of a cavity in the lungs. Laennec regarded it as the most important and valuable of all the physical signs of phthisis. Subsequent writers have not looked upon it with the same degree of favor. Some of them regard it as the most fallacious of all the physical signs of pulmonary tuberculosis. But our experience teaches us not to treat it in this light, and we can safely say, without any mental reservation, that if there is one sign that is pathognomonic of this malady, that sign is pectoriloquism. Let us examine its nature and some of its peculiar features.

When a cavity of any considerable size exists in the lungs, by placing a stethoscope directly over it, and directing the patient to speak, we will hear the sound of his voice as plainly as if it came from his mouth. This is the sound in question—pectoriloquism, or chest speaking. And it will

be more or less perfect according to circumstances. And it may be said in the first place, to be perfect, when the sound of the voice transmitted through the stethoscope is complete, and in the second place, it is imperfect, when the sound of the voice is wanting in some of its essential tones as heard from the mouth.

1st. The circumstances which render pectoriloquism perfect are: the complete emptiness of the cavity, the increased density of the portion of lung which forms its walls, its communication with one or more bronchial tubes of a certain diameter, and its proximity to the walls of the chest. It is proper to state, however, that whatever be the distance of the cavity from the surface of the lungs, if it possess the other qualities indicated, it will always yield perfect pectoriloquism, unless a very considerable thickness of healthy lung be interposed, which, owing to its defective density, is necessarily a bad conductor of sound. The extent of the cavity also contributes to the perfection of the phenomenon.

2d. It will be imperfect when the cavities are very large and their openings with the bronchia are very small. It will, also, be incomplete when a cavity opens into the pleura, particularly if the opening be large, and when its contents make their way through the walls of the chest into the cellular membrane outside. It may likewise be frequently suspended for several hours, and even days, by the temporary obstruction of the communication of the cavity with the bronchia, by the matter contained in it.

This sign is most characteristic of phthisis when it is located just under the clavicle, and is very circumscribed. But tuberculosis may, however, exist when it is more diffused; for, as we have already observed, besides the cavities there may be extensive consolidations of the lungs, and consequently free transmission of the voice over an extent of surface. Even in this case a practiced auscultator can distinguish the peculiar phenomena of cavities, in the blowing or tinkling, and the more articulate voice that certain spots present. But I would caution the young practitioner not to be too hasty in concluding upon the existence of cavities, from this sign alone. I have known some very good auscultators deceived by it. M. Louis mentions a case of this kind which occurred in his own practice.*

* Louis on Phthisis, p. 212.

3d. *The cracked pipkin sound.*—This is a very sure sign of a cavity in the lungs. It is usually elicited by a smart stroke given just below the clavicle while the patient's mouth is open. It is called by the French *bruit de pot fêlé*, from the idea that it resembles the sound produced by striking a cracked pipkin. The sound may be imitated by doubling the hands together rather loosely, and striking the back of one of them against the knee in such a manner as to allow the escape of a small quantity of air. The production of this particular sound, by percussing the chest, is owing to the proximity of a considerable cavity, having yielding walls, and a free communication with one or more bronchial tubes. If, therefore, when a patient's mouth is open, we strike smartly over a cavity, air escapes freely and suddenly into the bronchus, and thus the peculiar sound in question is produced.

I have, however, heard this sound where there was no cavity in the lungs. This may occur where the chest is unusually sonorous from emphysema, or bronchial dilations and mucous engorgements. It should, therefore, not be too much relied on as a sign of vomica. Indeed, it is not wisdom in the physician to judge of a case entirely by the physical signs alone. We should carefully compare them with the general symptoms, and previous history of the case. Any practitioner who relies too exclusively upon the physical signs, will sometimes commit the most flagrant errors in his diagnosis; whereas if he had taken a more general and comprehensive view of the case, he would have saved himself from the mortification which necessarily follows in the wake of such errors.

Oil of Turpentine in Typhoid Fever.

By EDMUND L. B. WALES,

Of Tuckahoe, N. J.

It has, perhaps, fallen to the lot of most practitioners of medicine to have their directions, however carefully given, occasionally misunderstood, and happily, if with no worse results, than in the case I am about narrating. During the course of last month I was attending on two persons sick in the same room, with fever of a typhoid type. They were a father and son; the son, a lad about ten years old, and so extremely ill, at the period to which I advert, as to make me despair almost of a favorable result in his

case. The brain seemed to be the chief seat of the disease. The manifestations of it were muttering delirium; somnolency, amounting almost to stupor; subsultus; picking at the bedclothes; countenance, though bad, expressive of fitting emotions, mostly painful, though occasionally of a pleasurable nature. Pulse ranging between 130 and 140; tongue red and dry, and a sordid incrustation on the teeth. The treatment had been alterative doses of cal. and James's powder, alternated with a julip of carbonate of ammonia; iced water to the scalp, and counter-irritation. At the time of modifying the directions, and which is the chief point in the case, I was led to suppose that small doses of the oil of turpentine might be salutary, and accordingly ordered 4 drops of that article, given every two hours, in the preparation of ammonia which he was already taking. Instead of 4 drops, however, 4 teaspoonfuls were given and persisted in, till nigh two ounces were in this way consumed, and till, in short, the irritation on the bowels, and revolt on the part of the little patient, had caused the dose, first to be diminished a teaspoonful, and at length to be discontinued a short time prior to my subsequent visit. In other words, nearly 2 ounces of the article had been taken in the manner above stated, in twenty-four hours. But, what was strange in the case, was, that the lad was evidently enough, even to the friends, a shade better at the close of these twenty-four hours, and so gradually improved, and is now well. The case has interested me very much. I theorize on it in this way: the action of the turpentine caused a new focus of irritation, and the brain was relieved at the expense of the bowels. It is curious in another particular. One of the knottiest points, as it appears to me, in pathology, is to determine how far morbid action may go, before superinducing structural lesion, and then, in vital organs, whether these lesions are of sufficient extent to be incompatible with recovery. It is this that embarrasses us so much in our prognosis and makes it so necessary to be guarded. In conclusion, we may remark that in an experience of over thirty years, we do not remember to have seen so many fevers of a typhoid character as we have met with in the course of the present fall.

At Rouen, a few days ago, twin sisters, the wives of two workmen, at a few hours from each other, gave birth each to twin boys.

EDITORIAL DEPARTMENT.

PERISCOPE.

Weekly Summary of American Medical Journalism.

By O. C. GIBBS, M.D.

PURULENT OPHTHALMIA OF ARMIES.

In the *Chicago Medical Journal* for August, Dr. E. L. Holmes, of Chicago, has an article upon the above subject. As this is often a very troublesome disease in armies, anything concerning it may be considered of importance at the present time.

"In a large proportion of uncomplicated cases, when the inflammation is confined principally to the palpebral conjunctiva, rendering them highly vascular and oedematous, we consider the use of solutions of argenti nitras, varying in strength from ʒj, ʒij, or even ʒijss to the ounce of water, as most reliable, *provided they are properly applied.*

"We never drop such collyria under the lids, for, thus introduced, they are to a certain extent neutralized by the salts of the secretions, and prevented from passing equally over the whole surface of the conjunctiva by the spasmodic contraction of the lids.

"To the conjunctiva of both lids, exposed as much as possible by inverting the upper lid and drawing down the lower lid, we first press gently a piece of dry linen for the purpose of removing all moisture and mucus. Upon the whole surface thus prepared we paint some one of the solutions above mentioned, by means of a large but short camel's-hair pencil, *thoroughly moistened* in the solution and yet *not saturated* with it. The brush should be passed freely over the surface till the whole conjunctiva presents the characteristic white appearance produced by argenti nitras, after which the moisture should be again removed with the linen and the lids returned to their natural position. One application of this kind a day is usually sufficient. The stronger the solution, the less freely it should be applied to the inflamed surface.

"We have followed this method with such good results in so many cases, that we would recommend it to all who have never tried it, where strong caustic solutions are indicated."

CIMICIFUGA RACEMOSA.

In the *REPORTER* for August 17th, we gave an abstract of an article upon the above subject, by Prof. N. S. Davis, of Chicago, and followed with a few remarks of our own. Speaking of its properties, we said:—

"We think it has, in some of its properties, a striking resemblance to the Peruvian bark—a tonic, and yet a sedative, with a peculiar action upon the nervous system; and, perhaps, by its action on the nervous system, influencing the secretions and excretions. From this similarity, it seems to us *it ought to have an influence upon malarious diseases.*"

In the *Journal of Materia Medica* for August, Dr. Charles A. Lee has an article upon this remedy, in which the following language occurs:

"We have known it used *successfully* in several cases of *intermittent fever*, of a mild type, and when of recent origin; but where the paroxysms have continued for any great length of time, it cannot be relied on with any certainty."

Will some of our readers, who live in malarious regions, put this remedy to the test in this disease? It may be too late to do so this year, but please remember our request until the next. From our location, we have not an opportunity to test the matter our self.

Our suggestion is, that the remedy be given in such doses or quantity as will produce moderate vertigo and dimness of vision, just a little before or near the time the paroxysm is expected. It may be given in one, or, better, in divided doses, repeated every hour, for from four to six hours, anterior to the paroxysm. We would advise its combination with opium, as is mostly done with quinine—the opium to be so given that the patient shall get from three to four grains before the paroxysm. It is not expected that it will be found to be a substitute for quinine. But if, in intermittent fevers, it can be relied upon, even in a minority of cases, as a means of cure, or, by a combination with quinine, will lessen the amount of the last named, otherwise necessary to effect a cure, this will be, if not now, probably at some future time, no small desideratum.

While upon this subject, let us make a comparison of some of the physiological effects and therapeutic properties of *cimicifuga racemosa* and *sulphate of quinine*, while at the same time we further consider Dr. Lee's article.

Dr. Lee says this remedy acts largely upon the "encephalon and the nervous centers." No one will question that quinine has a powerful affinity for the nervous system also. Dr. Lee says of the *cimicifuga*, "when used freely, it certainly causes vertigo, dimness of vision, etc." It will also produce an unpleasant feeling, and even pain in the head, flushed face, etc. Quinine in full doses will develop all these symptoms.

Dr. Lee says:—

"The *cimicifuga* has a decided and well-marked influence over the capillary system of vessels, moderately increasing all the secretions; particularly those of the skin, kidneys, and bronchial mucous membrane."

We believe these properties also to be possessed by quinine in a very marked manner, as we have attempted to demonstrate on several previous occasions.

Dr. Lee regards the *cimicifuga* "in the light of a renal alterative; increasing generally the amount of solids in the urine, without any great increase in the quantity of water." Quinine, likewise, certainly increases the amount of solids in the urine.

Dr. Lee says:—

"As a parturifacient, it was in general use among the Indians in the early settlement of the country: hence, called squaw-root; and it was first employed in New England to accelerate the pains of labor. *Bigelow* speaks of it as an active agent in facilitating parturition." * * *
"I could give the names of several practitioners of my acquaintance, who are constantly in the habit of using it in such cases, as a substitute for ergot, and with satisfactory results."

There are several physicians in this country who regard quinine, in ten-grain doses, as the best parturifacient known.

Dr. Tully says he has "known many cases, where it has produced abortion in pregnant females, when prescribed for a cough."

The same results have been attributed to quinine, and there are those who dare not give it in full or large doses to a female in pregnancy.

Cimicifuga, in full doses, lessens the frequency of the pulse. Quinine does the same.

In our article in the *REPORTER*, above referred to, we said:—

"In those cases popularly denominated 'a hard cold upon the lungs,' it has pleased us as well as anything. Three or four tolerably full doses per day, with eight or ten grains of *Dover's* powder at bedtime, will generally give satisfactory results."

It may be known to some in the profession that for many years we have treated *inflammation of the lungs* with *quinine and opium*, with results much more satisfactory than from any remedies previously used by us.

In this connection, though somewhat foreign to our subject, and yet bearing upon the treatment of pneumonia with quinine, we cannot resist the inclination of quoting a remark or two from an

article by Dr. Nelson Nivison, of Hector, New York, in the *Amer. Jour. Med. Sciences* for July, we think, though we have never seen the original. Quoting from Dr. Corrigan, of Ireland, the following—"Quinia appears to possess the same power in giving contractility to the capillaries in the lungs, which we know it possesses in so marked a degree over the capillaries and venous radicles in the spleen," he adds:—

"This property of quinia gives us a power over almost all forms of venous and capillary congestions which, perhaps, it is impossible to obtain by any other known agent."

We have maintained that, in pneumonia, when the pulse was over one hundred, quinine would invariably reduce it. Dr. Nivison says:—

"Another effect of quinine on the circulation is that of approximating the frequency of the pulsations to the healthy standard, when much too frequent or much too slow."

He further observes:—

"But perhaps the most remarkable effect of quinia on the blood is the fact that it defibrinates it, and renders it fluid and incoagulable. This fact may throw some light on its action in preventing and overcoming congestion, and subduing many forms of inflammation."

Returning to our subject, we may observe that we are by no means alone in regarding quinine as a nervous sedative, and if not an arterial sedative also, at least it lessens the frequency of the pulse by its action on the nervous system. Continuing the similarity, we quote Dr. Lee as saying:—

"We are satisfied, from observation and the experience of various practitioners, on whose testimony we can place the fullest reliance, that the *cimicifuga* will, without any obvious disturbance of the stomach or the sensorial functions, reduce the frequency and force of the pulse, allay pain, and relieve nervous irritability."

Dr. Lee says:—

"Where there is morbid heat and dryness of the skin, from irritative fever, the cohosh will, if given in considerable doses, abate the irritation, and be followed by relaxation and gentle moisture."

Under similar circumstances, we regard quinine combined with opium as the most certain and free diaphoretic we ever used.

Remarking for a moment upon the comparative therapeutic effects of the two remedies, we observe that Professor Davis and others regard the cohosh as almost a specific in rheumatism.

When properly combined and qualified, we believe quinine possesses remarkable properties over this disease.

In chorea it is admitted that the cohosh has a decided curative influence, and this might have been conjectured from the resemblance between chorea and rheumatism. Quinine combined with strychnine and the *Cannabis Indica* we believe to be the most certain remedy in chorea known.

We might follow up the comparison, but want of space forbids. Enough has been said to show that the *cimicifuga* is deserving of more extended trials, and its effects subject to closer observations. Will some chemist isolate its medicinal principles, if more than one is possessed, that each may be separately tested?

AMERICAN INDIAN HEMP.

In the *Journal of Materia Medica* for August, Dr. Charles A. Lee has an article upon the Indian hemp of America, (*apocynum cannabinum*), in which, though he classes it among the alteratives, he speaks very highly of it as a hydragogue cathartic and diuretic, and as very efficacious in several forms of dropsy. He thinks it is quite as powerful for good as, and less irritating than, most remedies of this class. In small doses, he regards it an alterative tonic; when given in full doses, especially in chronic cases, he would give it conjointly with quinine or some similar remedy.

After detailing several remarkable cases of cures effected with this remedy in dropsies, he adds:—

"My own experience with this remedy in dropsical affections has been somewhat extensive, and I can cheerfully add my testimony to that of others already quoted.

"I regret that I have not kept a record of the numerous cases in which I have employed it; in several the effects were as striking as in those above related; in some, the usual remedies had been tried and abandoned. The objections alleged against it, as to its uncertainty, and its occasional violent action, are really unfounded, inasmuch as they arise from carelessness or ignorance as to the proper mode of using it. It need not occasion the slightest nausea; nor need it act powerfully, as a hydragogue cathartic, or cause powerful sweats. The rule of administration is to begin with a minimum dose of the decoction, and gradually increase till the desired effect is produced. There is no instance on record where death has followed from an overdose of any of its preparations, so that if it is an acrid narcotic, as some allege, it is one of the mildest."

In regard to the mode of administration, we quote the following remark:—

"As the active principles are supposed to be all taken up by water, the decoction is generally preferred. That made with two drachms of the

coarsely-powdered root to one pint boiling water, steeped in a covered vessel half an hour, will ordinarily be of sufficient strength, of which a table-spoonful may be given three times a day, as an alterative tonic. If it causes nausea, some aromatic, as sassafras root, calamus, cardamom, cinnamon, or cloves, may be added. In chronic cases, nausea should be guarded against."

DIGITALIS IN DELIRIUM TREMENS.

In the *Pacific Medical and Surgical Journal* for August, its editor, Dr. David Wooster, reports a very interesting case of *delirium tremens* successfully treated with digitalis. The case was one of the worst form, and "had been judiciously and carefully treated, according to the usual methods, for *four days* previous to the fourth of August, during which time he had neither ate nor slept. At first, *four drachms* of the undiluted tincture of digitalis were administered, and manifest improvement followed. One and a half hours later he administered *four drachms* more. Two hours and twenty minutes later *four drachms* more were administered, making six drachms of undiluted tincture of digitalis in less than four hours. The patient was very soon asleep. He slept with but very little interruption for nearly ten hours, and on awaking thought he was dying.

"I then," says the patient, "took a little beef juice, and after a little a glass of water, and settled myself calmly in bed to die—and wished to die decently and with propriety; but, instead of dying, I merely went to sleep, and when I awoke again, about daylight, felt perfectly well, my fever all gone."

Remarking upon this case, Dr. Wooster says:—

"This case *alone* determines, in our estimation, the innocuousness of digitalis in enormous doses, when administered to patients in the last stage of *delirium tremens*, and also its rapidly curative effect in this frequently fatal affection. We by no means desire to intimate that because one and a half ounces of digitalis cured a case of *delirium tremens*, that the same amount would not kill a case of fever or other disease."

This is not a new method of treating *delirium tremens*, neither does Dr. Wooster claim it as such. So far as we now remember, it—digitalis—was first used by Dr. Glass, of Wirttemberg, who claimed remarkable success with the remedy. He used the infusion, and gave it with reference to its specific effects without regard to quantity. Later, Dr. Jones, of Jersey, England, reported great success with this remedy, in very large doses in *delirium tremens*. He gave as much as

half of an ounce, and even an ounce at a dose, of the tincture, and repeated as he thought circumstances justified, which were, as it seems to us, in view of the doses, frightfully often.

In the *American Medical Times* for December 1st, 1860, Dr. Randolph Page reports, two cases thus treated successfully. To the first patient he gave the officinal tinc. in *two-drachm* doses, and repeated every three hours, until five doses (one and one-fourth ounces in all) had been taken, when the patient went to sleep. Twelve hours later, three drachms at one dose were administered, after which the patient required but little or no further treatment.

Since writing the above, we have observed two other authorities who have highly recommended the digitalis in *delirium tremens*. Dr. G. M. Jones, in the *Med. Times and Gaz.* for September 29th, 1860, relates a singular circumstance. He says that in 1848, for a case of *delirium tremens*, he prescribed chloric ether with tincture of opium, and was horrified when he found *tincture of digitalis* had been administered instead; but pleasure succeeded to horror when he found that the patient, whom he expected, even under appropriate treatment, would die, was rapidly recovering under the mistake. Since that he has used the digitalis in all cases of *delirium tremens*. He says:—

"As to the dose, experience has taught me that the best dose is *half an ounce* of the tincture, given in a little water. In some few cases, this one dose is enough; but generally, a second dose is required four hours after the first. In some cases, but very seldom, a third dose is called for; but this hardly ever need exceed two drachms."

It is probable that Dr. Jones was the first to advise this remedy in this disease.

In the *St. Joseph Med. and Surg. Journal*, Dr. G. C. Catlett speaks very highly of digitalis in *delirium tremens*. This was in 1860. He commences with the tincture in *teaspoonful doses*, and repeats every *half hour*. When improvement is decided, he lengthens the interval. There may be others who have recommended the remedy, in the disease under consideration, and also different methods of using; but we have not now the time for further research. Enough has been said to induce our readers to give the digitalis a trial, before seeing a patient die with *delirium tremens*.

Nearly two years ago, and before we had observed any recommendation of digitalis in *mania*

a *potu*, or account of such use of the remedy under consideration, we suggested, upon what we deemed sound theoretical principles, the use of the *veratrum viride* in *mania a potu*. Unfortunate for our desire to put this remedy to the test, but honorable to the sobriety and morality of our patrons, we must say, we have never seen a case of the disease under consideration. The *veratrum viride* and the *digitalis* are not dissimilar in their therapeutic effects, and it is still possible that our theoretical suggestion may not be wide of the mark.

With *digitalis*, in the cases referred to, it seems to us that the doses are alarmingly large; they would prove the death of a well person, it is quite possible. True, the results are satisfactory; but suppose the patients had died, who would have known whether they died of the disease or the remedy? With a remedy so variable in strength as the tincture of *digitalis*, we cannot resist the temptation to suggest that the remedy be commenced in more moderate doses than four drachms, and then increased with reference to its specific effects, unless decided improvement sooner takes place.

EXTRA-UTERINE PREGNANCY.

In the *Chicago Medical Examiner* for September, Dr. E. P. Cook reports a very interesting case of extra-uterine pregnancy. The patient had previously borne two children, and supposed herself to be in her third pregnancy. Cessation of menses, morning sickness, swelling, soreness and secretion in breasts, were all present, as in ordinary pregnancy. The patient carried the *fœtus* for about four years, and without the development of marked symptoms or changes "after the expiration of nine months, until more than three years had passed, when the lining membrane of the sac took upon itself a secretive function, and gave rise to a state of things resembling very much a case of ovarian dropsy, and repeated tapplings were necessary."

After having been tapped five times, and always with marked temporary improvement, an operation for a radical cure was attempted. The *fœtus* was removed by gastrotomy, and weighed five pounds, and was in a perfect state of preservation, excepting scalp and bones of the cranium. After several weeks of suffering, and uncertainty as to the result, the patient recovered perfectly. It is but proper to observe that, because of firm adhesions, the sac was not removed. This now can be easily felt through the walls of the abdo-

men, "about the size of the closed fist, firmly fixed just below the umbilicus, extending down to the left iliac fossa, the greater bulk to the left of the mesian line."

OPIUM AS AN ANAPHRODISIAC.

In the *Chicago Medical Examiner* for September, Dr. B. Woodward has an article upon opium and its properties. He regards opium as a decided anaphrodisiac. Both in men and women, who are in the daily habit of using opium, he found, on inquiry, that the sexual desire was nearly extinct. This accords with our own observation of this remedy. This is not a new idea, and yet many have denied to opium any influence over the sexual system. Though opium has been regarded as a lessener of all the secretions, Dr. Woodward thinks it is a decided diuretic. After repeated trials upon himself and others, he found the urine increased full one-third in twenty-four hours, under one-third of a grain of sulphate of morphia, repeated three or four times a day, while its specific gravity was decreased.

In the six persons experimented upon, this result was uniform in all but one—in this one there was no perceptible increase in quantity of urine, but a marked lessening of specific gravity. The direct effects of opium were not as marked as when the alkaloids—the sulphate or muriate of morphia—were used.

KEROSOLENE AS AN ANÆSTHETIC.

In the *Chicago Medical Examiner* for September, Dr. F. W. Reilly details a few experiments with this agent. His experiments were made upon rabbits, and though death was produced in two cases, anæsthesia was produced in none.

In former numbers of our *Summary*, we have given the experience of Dr. H. J. Bigelow, of Boston, with this agent, as well as that of others who have put its properties to the test of experience. The results of Dr. Reilly do not correspond with those of Dr. Bigelow. In the *American Journal of Pharmacy* for September, Mr. Edward Parrish has an article upon kerosolene. He makes a remark that may account for the discrepancy. He says:—

"In view of its use in medicine, the fact of the great uncertainty of its composition, its being a mixture of different and undetermined proximate constituents, must interfere with its general adoption and recognition." He further observes, "My friend, Dr. Thomas George Morton, gave it in four or five instances to full-grown cats; in no

case did it appear completely to destroy sensibility, though it seemed to deaden pain, and generally, if the sponge was applied about fifteen minutes to the animal, convulsions and violent twitchings resulted."

This corresponds with the observation of Dr. Reilly. Convulsions and death occurring short of anæsthesia, render it less safe than chloroform, even while it is far less efficacious for all purposes for which anæsthetics are used. Though we have never put it on trial, from all we can learn of it we cannot help thinking it will be found nearly or quite worthless in medicine.

SPERMATORRHOEA SUCCESSFULLY TREATED WITH ACONITE.

In the *Cincinnati Medical and Surgical News* for August, Dr. J. J. Kimberlin has an article upon spermatorrhœa, and gives a case illustrating his treatment. He believes spermatorrhœa to be the result of "an excessive sensibility of all the urino-seminal vessels, especially of the prostatic urethra," and directs his treatment accordingly. The following is his prescription:—

"Two parts of the solid extract of aconite, and one of hemlock, were broken down with water to the consistency of cream. Of this an unguent was formed by adding lard in sufficient quantity, with which the perineum was well anointed, three times per day for over a week, in conjunction with a regular course of salines to keep the bowels soluble. At the expiration of the time mentioned, my patient returned much elated with the success of the course of treatment."

This treatment was continued for a month longer, and the doctor says the cure was perfect.

INHALATION OF ETHER IN PUERPERAL CONVULSIONS.

Before the *Boston Society for Medical Improvement*, as per report in the *Boston Medical and Surgical Journal* for September 12th, the subject of the inhalation of ether in puerperal convulsions was under discussion. Drs. Storer, Tyler, and Dalton expressed themselves decidedly in favor of its use in such cases. Dr. J. Bigelow thought it was probable that ether would be found only valuable in the hysterical variety of this disease. Dr. Storer said, he "had seen very decided effects from ether in this affection, in cases where the urine contained large quantities of albumen, and in which there was no evidence of hysteria."

We have used chloroform in almost every form of convulsions, puerperal, hysterical, and epilepti-

form, for about six years, and it has never failed in bringing prompt and perfect relief, which was often permanent. Either we have never used in such cases. The sedative character of chloroform would determine our selection of this agent in preference to ether, which last we should suppose might be objectionable in some cases. We do not regard chloroform as objectionable in any case—if there are cases to which it will not bring relief, but little time need be lost in giving it a trial. We have never found it necessary to administer the remedy to anæsthesia.

By a singular coincidence, at this juncture, our attention was attracted from our writing to our son, a boy ten years of age, who has been but twenty-four hours ill with diphtheria, and found him in convulsions. Almost instantly we had a handkerchief, wet with chloroform, to his face, and a few inspirations were sufficient to relax all spasm and restore consciousness.

We at one time attended a case of dysmenorrhœa in an unmarried lady, aged about twenty-two years, of apparent robust health, but of sedentary habits. At each monthly period, trismus and general rigidity of the muscular system would occur, with insensibility, etc. A few breaths of chloroform would invariably unlock the jaws, and relax the iron-like rigidity of the muscular system. Occasionally these symptoms would recur a dozen times or more during the period, but at each time was as promptly relieved by the inhalation of chloroform. Our experience has been such with chloroform in convulsions, that we have resorted to it almost indiscriminately. So far, fortunately, it has not disappointed us. Perhaps ether will do as well, but our faith is not sufficiently strong to induce the change.

NEUTRAL SALTS IN DYSENTERY.

A correspondent of the *Boston Med. and Surg. Journal* for September twelfth, over the initials of C. E. B., has a few remarks upon this subject. Those of our readers, who have been such for several years, know that we have been an earnest advocate of the use of epsom salts, in connection with elixir vitriol and sulphate of morphine, in dysentery. Since we commenced the use of these remedies, we have not lost a case of the disease under consideration.

Dr. C. E. B. thinks there is an equally efficient and pleasant preparation—we hope so, certainly. The doctor says:—

"The treatment of dysentery in its earlier stages by neutral salts, has certainly very great success. But why should one select such a disgusting salt as sulphate of magnesia, when there are others equally as good and very palatable? Why force a child to swallow an offensive remedy, when a pleasant one can be had? A scruple of bitartrate of potash to an ounce of syrup of orange peel or Tolu has the advantage of being a medicine that 'children cry for,' and not on account of. It has the advantage also of being a salt of an organic acid."

IN-GROWING TOE-NAIL.

In-growing toe-nail is by no means a rare trouble; and, though not destructive to life, it is extremely painful and annoying. The old method of treatment by splitting the nail in two and then tearing each off respectively, was an extremely painful method of cure; and yet one we have frequently seen performed by an eminent surgeon and professor.

In the *Boston Med. and Surg. Journal* for September 19th, one of its editors copies a new method of treating this troublesome affection, from the *Gazette des Hôpitaux*, with remarks. The author of the paper, M. Wahn, being sorely afflicted himself, decided to employ the *perchlorure de fer*. He says:—

"I obtained some in a powdered form, and insinuated it as deeply as possible between the free edge of the nail and the ulcer. I felt almost immediately a moderate sensation of pain, accompanied by a feeling of constriction and a strong burning sensation. A quarter of an hour after, I attempted to walk, and, to my great satisfaction, I found I could bear my weight on my foot throughout its entire length without the least pain; a thing which I had not done before for many months. The following day I carefully examined the diseased parts, and found them mummified and as hard as wood. I applied a fresh quantity of *perchlorure de fer*, which I allowed to remain for a quarter of an hour; but I have reason to believe this application was useless, as the mummification was complete by the first process."

Within the last two years we have noticed at least four methods of treating this trouble, besides the one above given, all of which are described as nearly painless. To many of our readers it may be interesting to subjoin these as briefly as possible; as, so far as we know, they are not taught in our text-books.

In the *New York Monthly Review* for August, 1859, Prof. Mack, of Buffalo, in his Review of Parisian Medicine and Surgery, says:—

"In-growing toe-nail is removed by M. Gourut by the following process: Short strips of adhesive plaster are placed on one another, so as to form a kind of brim; two such fasciculi are made, and placed a little in front and a little behind the morbidly-growing nail. Into the groove thus artificially made, and which just occupies the root of the nail, semi-fluid Vienna paste is put. After a few minutes, a black eschar is formed, properly hemmed and limited by the adhesive plaster. The paste is now quickly taken off; and in a few days the nail comes off, without pain, by the gentlest traction."

In the *Boston Medical and Surgical Journal* for October, 1859, Dr. H. B. Wilson, of Boonshorough, gives what he calls a sure and painless method of treatment. He says:—

"My plan is, first to take a perfectly sharp scalpel, and beginning at the end of the nail, on the sore side, gradually and slowly divide about one-fourth of the nail from the end to the root.' * * * 'The next thing to be done is, not to dissect out the nail, or forcibly draw it out by the root, but to introduce a very little raw cotton under the edge of the smaller portion, or between the two edges where it has been split, as far down as the root; then bind the toe up in a slippery-elm poultice, in order to reduce the inflammation. In another day, the cotton can be pushed still farther under the nail, and the nail itself will begin to let go its connections and become loose. On the second day, or at most, the third, the fourth part and offending portion will come out of itself, or can be gently removed without the slightest pain, and the toe will then get well without any further treatment.' Since copying the above, we have tried this plan of cure in one very bad case, with results quite satisfactory."

In the journal just referred to, for December 15th, 1859, the editor has the following for cases of moderate severity:—

"A piece of soft felt, such as is used by piano-forte makers, about half an inch thick, is cut into a wedge shape, and inserted between the great toe and the second, the point forward. The size of the wedge must be regulated by the circumstances of the case, the object being to separate the toes, so as to remove the pressure of the second toe against the internal angle of the great toe-nail, care being taken that the toes are not pushed too far apart. The nail should be allowed to grow to the end of the toe, and the internal corner must not be pared away, as is often done."

In the same journal quoted from above, for December 29th, 1859:—

"Dr. N. Gilman gives a new plan of treating in-growing nail, for which he claims prompt and satisfactory results. The treatment which he advises he says he has put to the test for twenty years without failure. It is simply to cauterize

the part with hot tallow. He says: 'The patient on whom I first tried this plan was a young lady who had been unable to put on a shoe for several months, and decidedly the worst case that I have ever seen. The disease had been of long standing. The edge of the nail was deeply undermined, the granulations formed a high ridge, partly covered with skin, and pus constantly oozed from the root of the nail. The whole toe was swollen, and extremely tender and painful. My mode of proceeding was this: I put a very small piece of tallow in a spoon, and heated it over a lamp until it became very hot, and dropped two or three drops between the nail and the granulations. The effect was almost magical. Pain and tenderness were at once relieved, and in a few days the granulations were all gone, the diseased parts dry and destitute of feeling, and the edge of the nail exposed so as to admit of being pared away without any inconvenience. The cure was complete, and the trouble never returned. I have tried this plan repeatedly since, with the same satisfactory results.'

In the *REPORTER* for October 6th, 1860, Dr. H. M. Clarkson reports a bad case of in-growing nail, at once relieved and soon cured by one application of this simple remedy, as recommended by Dr. Gilman.

Dr. B. Weber, in the *Lancet and Observer* for November, 1860, after referring to this plan of cure, subjoins his own method, which, he says, will, in numberless instances, make all others superfluous. He says:—

"To attain my object, I made use of the following composition:—

R.—Cortic. querci, ʒss;

Gallarum turcicarum, ʒj.

Conscisse coque in aq. communis, ʒx, Ad remanentiam, ʒvi, Colatura addatur Argenti nitrici fusi, ʒj-ʒj.

Acet. saturni, ʒij. M.

D. S. Embrocatio.

"With this mixture the sick toe is to be moistened all over, and as much as possible of the liquid dropped into the fissure between the nail and flesh, and then the toe to be bandaged with a strip of linen about one and a half inches wide and eight inches long. After the end coming next to the nail has been saturated thoroughly with the liquid, the balance of the strip is wrapped around the toe. The moistening of the inner end of the strip has to be repeated through the day four, or six, or ten times, and to be continued until a cure is effected. Generally the application causes no particular pain; if, though, there should be much sensitiveness, from six to twelve grains of morphine might be added.

"Soon after the application of this remedy the swelling of the toe subsides, the excrescences, the proud flesh shrink, get black, as also the whole toe; the nail gets brown, soft, brittle, loses its stiffness, and ceases to press and dig into

the flesh; the skin peels off, and out of the matrix a new, well-formed nail will be developed."

From the above methods of cure, we think our readers can make a selection that will meet any case they may have in hand without necessitating a resort to the barbarous method of evulsion.

TUBERCLE—PATHOLOGY OF.

A week or two ago, we referred to a paper upon *Phthisis Pulmonalis*, in the *St. Louis Med. and Surg. Journal* for September, by C. R. S. Curtis. We wish again to allude to it, because of its author's peculiar pathological views. He does not believe the blood to be in fault in *tuberculosis*. We cannot quote his argument, but subjoin the following:—

"And in addition to these circumstances, there is one other consideration, of the greatest importance, which must not be overlooked, and which is as applicable to *tuberculosis* as to cancer; and that is, that the blood has no direct formative power within itself, and consequently cannot directly form even the simplest organ of the body—its purpose in this respect being to distribute through the molecular structure of organs the material suitable for their growth and development, which material is selected from the mass by the molecules, (for the molecules have a discriminating power of selecting from the blood such material as is best suited for their growth and development, and rejecting that which is unsuited,) and by them so elaborated as to enter into the formation or subserve the function of the organs which they represent. Bearing upon this point, and in opposition to the doctrine of 'free-cell development,' Prof. Virchow most ably remarks: 'Even in pathology, we can now go so far as to establish, as a general principle, that no development of any kind begins de novo, and consequently as to reject the theory of equivocal (spontaneous) generation just as much in the history of the development of individual parts as we do in that of entire organisms. Just as little as we can now admit that a tænia can arise out of saburral mucus, or that out of the residue of the decomposition of animal or vegetable matter an infusorial animalcule, a fungus, or an alga, can be formed; equally little are we disposed to concede, either in physiological or pathological histology, that a new cell can build itself up out of any non-cellular substance. Where a cell arises, there a cell must have previously existed (*omnis cellula e cellula*), just as an animal can spring only from an animal—a plant only from a plant.' Consequently, we cannot regard cancer or tubercle as the direct result of a depraved condition of the blood without either claiming for the blood a direct formative power, or denying to the tissues their property of discriminative selection, either of which positions would be contrary to the known and acknowledged principles of physiology.

"That the material of which these morbid pro-

ducts are formed is derived from the blood, we would not be understood to deny; but we claim that such material is derived from normal healthy blood, and not blood in a depraved condition. The same blood, for instance, which supplies to an abnormal malignant growth the material for its development, supplies to all the organs of the body healthy material for growth and function. In other words, this morbid condition of vitality, having once become established in a given organ or part, possesses in its ultimate structure the same power of discriminating and selecting from the blood the matter they require, as do the molecular structures of healthy tissues. The same condition is observed in the vegetable world. From some cause an excrescence begins to form on a tree or plant. This unnatural action having once been established, for years, or perhaps during the whole life of the tree or plant, this morbid growth derives from the healthy sap the material for its increase, just as the body and branches derive their support from the same source."

From the above, and the contents of his paper in general, he deduces the following conclusions:

"We will now proceed to consider where the first link in the chain of morbid action began. We have sought for it in the blood; but the microscope and the laboratory have not found it there. Neither can we regard it as the result of inflammatory action. We have traced it to the ultimate cell structure. Here is its first manifestation while all other parts remain normal and healthy. Here, then, in the ultimate cells the first perverted action is found—a molecular and cell growth, whose function and development is abnormal and degenerative, and which has a power of producing in other tissues the same morbid peculiarities that characterize itself. But whence originated the mother cell of this perverted mass? It could not have sprung from the blood, because the blood has no direct formative power—neither could it have had a spontaneous development: it must have been derived from a once normal cell; but, in order for such a derivation, the normal cell must have undergone a transformation so as to become abnormal. And we can account for it in no other way than by regarding it as originating in some peculiar revolution that has taken place in a parent cell, by which its function has been perverted and its physical and vital tendencies changed. Such a revolution could not have been produced excepting through a disturbance of the just equilibrium existing between the vital and chemical forces acting within it, and by which its functional and reproductive revolutions are governed. This change in the character and products of a once normal cell having taken place, other cells resembling it in every particular, the offspring of the first, would necessarily be produced in a very short time, on the principle that 'like produces like.' And, in accordance with the law of molecular motion, these abnormal cells would have

the power of imparting their own motion to other cells with which they might be in contact. Thus we can readily perceive how this morbid action may rapidly extend and increase locally. And by the unnatural and depraved products of perverted function being absorbed into the circulation, 'the life of all his blood is touched corruptibly,' and the morbid material becomes diffused through all the tissues of the body, and thereby sooner or later eventuate in death."

NEW PROCEDURE FOR THE LIGATURE OF THE SUPERFICIAL PALMAR ARCH.

"All surgeons are aware that the gravity of the wounds of this artery is entirely out of proportion with its size. The difficulty of checking the hemorrhage arises, on the one hand, from the fact that blood is supplied in almost equal quantities by the radial and ulnar arteries, and on the other, from the number of collateral vessels given off in so limited a space. Hence it is almost impossible for a solid coagulum to form in the divided extremities of the artery. The superficial situation of the arch, in a region so exposed as the palm of the hand, accounts for the frequency of these injuries. In general, pressure on the site of the wound and on the principal arteries leading to the hand is at first resorted to; but the abundance of secondary hemorrhage soon compels the surgeon to secure the radial, ulnar, or even the brachial arteries, a series of hazardous operations which might be avoided, were it possible to apply a ligature directly upon the extremities of the open vessel. This precept is, however, seldom complied with, on account of the loose description given by anatomists of the exact situation of the superficial palmar arch.

"Dr. E. Bœkel, Fellow of the University of Strasburg, has recently published, in the local *Medical Gazette*, some new indications which may guide the operator in his search for this artery, and permit him to secure it without unnecessarily extensive incisions.

"Place the thumb," says Dr. Bœkel, "in the greatest possible abduction, and draw a line from its ulnar edge across the palm of the hand. In front of this, which may be denominated the guiding-line, draw a second in a parallel direction, at a distance of a third of an inch nearer to the fingers, or more correctly at an equal distance between the first line and the middle cutaneous fold of the palm; this is the precise position of the superficial arch, and if the skin and palmar fascia are divided here, the artery will be at once exposed, and found reposing on a layer of fatty tissue which separates it from the nerves and tendons. No apprehension of wounding these need therefore be entertained.

"It will perhaps be alleged that no fixed rules can apply to an artery so irregular as the palmar arch; but it must not be forgotten that the anomalies alluded to refer less to the exact situation of the vessel than to the dimensions of its supplying branches. I have performed the ligature above twenty times on the dead subject, guided

by these rules, and have never once failed in alighting on the artery in the exact position described.

"An accurate knowledge of this anatomical detail has another advantage quite as great as that of giving increased facility in finding the artery, viz., it supplies us with the means of avoiding it. Phlegmonous inflammation beneath the palmar fascia, at the same depth as the arch, frequently requires incision, which is never extended toward the wrist without a certain amount of hesitation. The indications I have mentioned will permit the surgeon to use the knife with more boldness, and at the same time with greater safety, and they have already done me good service for this purpose."—*Journal of Practical Medicine and Surgery*.

PEPSIN IN INDIGESTION OF NEW-BORN CHILDREN.

The *Moniteur des Hôpitaux* of July last contains an article by M. Toulou, who had to treat a new-born child laboring under great weakness, vomiting, diarrhoea, etc. As it was evident, from the constant vomiting, that the child did not properly digest the milk, M. Toulou had recourse to pepsin, which was given in two-grain doses mixed with sugar-water. The mother, at the same time, made her milk flow into the child's mouth, as he was too weak to suck. On the third day the diarrhoea had ceased, and the vomiting was quite controlled on the twelfth day. The child is now two years old, and the picture of health. Pepsin has also been found useful with children who take large quantities of milk from the breast and regularly reject a portion of it.—*Lancet*.

ACUTE GLANDERS IN A PREGNANT WOMAN, RESULTING IN DEATH.

M. Maugeret, of Tours, in France, relates, in a late number of the *Gazette des Hôpitaux*, (September 24th,) a most puzzling case where death was eventually found to be the result of glanders. The patient was thirty-nine years of age, a rag-dealer, and seven months pregnant. She lived in a most filthy room, surrounded by bones, rags, and offal of all kinds. The family kept a small, sickly, jaded horse, afterward known to be suffering from glanders, and which was habitually tended by the patient, drank from the same vessel as the inmates, and was thought to be affected with paralysis of the legs. The woman, after long draughts of cold water, when heated, was attacked with a kind of intermittent fever, this masking the pneumonia, which was soon discovered. Several days afterward she had severe pain in the legs, pustules about the nose and forehead, and discharge from the nostrils. The eruption soon invaded the whole face, and descended to the shoulders; the nose swelled enormously, the discharge becoming thick and purulent; and, as the glands of the neck swelled considerably, the head became hideously large and repulsive. Delirium set in, scorbutic patches appeared on the chest and legs,

and dark blood exuded from the gums. The face swelled more and more, and became covered with crusts and blisters; the discharge from the nose increased and was incessant; the eyes, enormously tumefied, also oozed with purulent matter; the respiration was anxious; the tongue black, thick, and dry; the stools involuntary. The agitation and cries of the patient were fearful, and she could hardly swallow a drop of liquid. The whole body was soon covered with a fetid perspiration, and a great number of tumors, and the breath was so horrible that none but members of the family could be found to attend to the unhappy woman. In this fearful state, she began to feel child-bearing pains, and she had enough strength left to ask for her midwife. The latter had the courage to answer the sad appeal, and the patient gave birth to a living, though hardly viable child, which lived twenty-four hours—a time just sufficient to allow it to be buried with its mother.—*Lancet*.

FOREIGN BODY IN THE LARYNX—REMOVAL.

Dr. L. B. Bostford, Surgeon of the Marine Hospital of St. Johns, New Brunswick, communicates the following case to the *American Medical Monthly*:—

"A sailor was admitted on the sixth instant into the Marine Hospital, where I saw him about three hours after the accident occurred. He had been using a large-sized tailor's needle, threaded, and while holding it in his mouth and coughing, the needle entered the throat. Attempts were made to remove it before he came to the hospital, without success.

"When I saw him, the thread, a linen one, extended about three inches beyond the mouth; looking into the fauces, no needle could be seen. To ascertain the whereabouts of the needle, I took a gum catheter, cut off the end, passed a thread through, attached it to the thread connected with the needle, and passed the catheter in until it evidently followed the thread down to the eye of the needle. The catheter passed down about seven inches, and violent coughing was induced, such as follows the application of caustic solutions with the sponge.

"The probang was next passed into the œsophagus, but produced no disturbance. Slight force applied to the thread caused the man to cough. I was assisted by Dr. Hamilton, of this city. Our diagnosis was, 'needle in the trachea, point upward,' and we concluded upon opening the trachea and extracting.

"Upon further examination of the throat, and endeavoring to ascertain where pain might show the probable position, the man pointed to the neighborhood of the cricoid cartilage, and suddenly exclaimed, 'I think I feel it.' Pressing upon the space between the cartilages, I recognized what appeared to be the point of a foreign substance. Cutting down through the integuments into the crico-thyroid space, the point of the needle was made bare, and seizing it with a

forceps, the needle was drawn out, the thread disappearing down the throat, as it followed the needle through the opening.

"The peculiarities of the case were: 1st. The absence of cough, unless the thread was pulled. 2d. The power of speaking, without inducing spasm of the epiglottis.

"There can be no doubt but that the needle was in the trachea, and it could not have penetrated through its posterior wall first from the œsophagus, because the probang caused not the slightest uneasiness, which it must have done by coming in contact with the needle, which was about two inches long."

REVIEWS AND BOOK NOTICES.

Placenta Prævia; its History and Treatment.

By WILLIAM READ, M.D., of Boston, Member of the Massachusetts Medical Society, etc. etc. Philadelphia: J. B. Lippincott & Co., 1861.

This volume forms the twenty-third of the Library of Practical Medicine, published by order of the Massachusetts Medical Society for the use of its Fellows. Upon the subject of which it treats it is entirely exhaustive, giving in its 340 pages a condensation of all that is now known in relation to this rare but important and difficult complication of parturition. The work was begun for the author's own information, at a time when there was much doubt upon many points relating to the subject. As the investigation proceeded, materials accumulated, and it was found that, though the labors of Drs. Simpson, Trask, and Barnes had thrown much light upon the subject, yet they had given rise to many questions about which there might be great difference of opinion. Copious notes and references are given throughout the work, so that the reader can verify every quotation made. And thus the full blaze of all the past researches and opinions is thrown upon the solution of some of the questions and differences. The style in which the work is written is attractive, and the statistics, dry as they usually are to the ordinary reader, are yet thrown together in such varied form as to give zest to the perusal. The work has received the universal commendation of the medical press, and cannot fail to be a valuable addition to standard medical literature.

The conclusions to which the author arrives are thus expressed:—

"1st. The danger to the mother in Placenta Prævia increases as the period, at which the labor comes on, approaches the full term. A result rather to be expected from the increased capacity of the uterine vessels, as pregnancy advanced to its termination. It is therefore better to terminate the labor, after it has really begun, as soon as compatible with the safety of the patient, than to endeavor to conduct the pregnancy to its full term.

"2d. The danger to the mother is less when

the os uteri is completely covered, than when a portion only is involved in the attachment of the placenta; and least of all, where the attachment becomes nearly or quite central with reference to the os. Under these last conditions there is a strong probability, if the contractions are vigorous enough, that the placenta will be thrown off and expelled into the vagina, and the hemorrhage be checked.

"3d. The condition of the mother, is a much more important element in making a prognosis of the case, than the amount of blood lost; some constitutions being very much less susceptible to the effect of depletion, and capable of sustaining a greater amount of hemorrhage without being unfavorably affected, than others. The condition of the mother then, should be most carefully watched, and the appearance of any symptoms indicating debility, or a tendency to collapse, should be the signal for the adoption of such remedies, or such a course as will the most speedily and safely insure the delivery of the child. And they should be put into effect without any delay, always bearing in mind the fact, that operations which are perfectly safe to the mother, when her vital power is comparatively undiminished and unimpaired, become almost certainly fatal, if performed when she has become exhausted by hemorrhage and suffering.

"4th. In those cases where the pains are vigorous, and show a disposition to be permanent, (the head presenting, the os in good condition, and the strength not materially impaired,) *Rupturing the membranes* by letting off the waters, and bringing the child's head down upon the os, will, in most instances, be enough to check the bleeding, and place the mother in a safe condition. When, however, a want of tonic power is manifested, or it is probable that resort must be had to forced delivery, the discharge of the waters in this way will only increase the difficulty of the operation, and the danger to the mother.

"5th. The danger to the mother is materially increased by artificial delivery. But the same statistics which show this result, also make it evident that this increased fatality is owing *not so much to the operation itself*, as to the enfeebled and exhausted condition of the mother at the time; and that, with a favorable condition on the part of the mother, there is no more danger in resorting to it in Placenta Prævia, than in ordinary cases of difficult labor.

"6th. The effect of artificial delivery to endanger the life of the mother in Placenta Prævia, being therefore almost directly proportionate to the degree of exhaustion under which she labors, it should be the aim of the practitioner to perform this operation, before such a state is reached; always bearing in mind the remark of Dr. Churchill, that 'it is peculiar to midwifery operations that they form an ascending series, increasing in gravity from the simplest to the most severe—no two being equal; and therefore, in considering the suitability or practicability of any one, we do so with the knowledge that if the one we prefer,

do not succeed, we must have recourse to another more severe and more dangerous.'

"7th. If from the progress of the case, or the conditions of the labor, a resort to artificial delivery must finally be had, it should not be delayed an instant beyond the time, when the dilatation, or dilatability of the os uteri, permits the introduction of the hand into the uterus: the danger to the mother from forced delivery, being directly proportionate to the degree of exhaustion under which she labors. (See art. 3d, 5th, 6th.)

"8th. When from the rapidly failing condition of the mother, or the presence of any cause rendering artificial delivery impossible, a resort to the foregoing is forbidden, the placenta should be wholly separated from the uterus, and such remedies made use of (see Transfusion, p. 326,) as will recruit the strength of the mother, until reaction having been established, she can be delivered in whatever way may be deemed best.

"9th. The tampon may be used advantageously in all those cases, where, with an amount of flooding sufficient to materially affect the constitution of the mother, the os uteri remains so rigid that it is impossible to perform artificial delivery. But, while under these circumstances, it is important to gain time for the dilatation of the os, and, at the same time, prevent the hemorrhage from too speedily exhausting the mother; under an opposite state of things a resort to the tampon, by inducing this temporizing policy, will often cause a loss of valuable time, and in this way make just the difference between a safe and a fatal issue. As the effect of this application, is not only to check the hemorrhage, but also to excite labor-pains and dilatation of the os uteri, it is totally forbidden, in all cases where either or both of these results may not be desired.

"10th. The effect of ergot being of a twofold nature, according to the condition of the system, (ebolic or parturient when the nervous energy is undiminished, and stimulant when there is a want of this,) it should not be administered, when there is a probable necessity of terminating the labor by an operation, unless at such an interval, that the effect of it is either exhausted, or will not come on until after the operation is finished, or the condition of the mother is such that it will act merely as a stimulant.

"11th. In cases where the exhaustion is excessive, and version is the only alternative, after the feet have been brought down, the body of the child should be left undelivered, until the uterus has been roused to contract, and a firm condensation of its walls has been secured; or at least, it should be withdrawn so slowly, as to prevent the evil consequences which sometimes follow too sudden delivery."

A Loadstone which Belonged to Benjamin Franklin.—At a sale in London of the effects of the late Mr. Quekett, the microscopist, was a loadstone which had belonged to Franklin. It was incased in brass, on which was the inscription, "Benjamin Franklin, Boston, N. E., 1779."

THE MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, SATURDAY, JANUARY 11, 1862.

SANITARY ARRANGEMENTS IN NEW YORK.

From an excellent address, read before the New York Sanitary Association recently, by Dr John H. Griscom, we learn some facts relative to the sanitary condition and health arrangements of New York City, which are deserving of special notice.

The "cognizance of all matters affecting the public health of the city is confided by the charter to that department called the City Inspector's Department. By statute law, there are two other organizations for the same purpose. 1st. A Board of Health, composed of the Mayor, Aldermen, and Councilmen, (which has had no meeting for nearly a year.) 2d. A body called Commissioners of Health, composed of six persons. In the Health departments there are 183 individuals. Of the Commissioners of Health, *one* is a distinguished surgeon, *one* a retail apothecary, and the other, the Health officer, resides on Staten Island. Among the members of the Board of Health there is not *one* medical man, and in the City Inspector's Department there is but *one* laying any claim to a knowledge of medical science; and he is only a clerk, without any executive functions. Among the subordinates of the City Inspector are twenty-two Health wardens, not *one* of whom, in 1859, made any pretensions to a knowledge of medical or sanitary science. In 1861, their assistants were of the same stamp, *par nobile fraterum.*"

The sanitary interests of the city are therefore entirely under the control of civilians. And not only is the medical profession thus ignored in a matter which of right should come under their supervision, but even a knowledge of the common principles of sanitary science is not required in the guardians of the public health. We venture the statement, that a like anomaly is not found in the history of any other city of the Union, nor of the world. The expense of maintaining these organizations amounted, in 1860, to \$478,620 72, or, independent of the amount paid for street-cleaning, \$153,249 35; and the results are exhibited in the comparative sanitary statistics of the four great cities of the United States. In 1850, the deaths in New York averaged one in 33.52; in Philadelphia, one in 37.84; in Boston the same; in Baltimore, one in 36.19. In 1857, the mortality in New York increased to one in 27.15; in Philadelphia it diminished to one in 44.5; in Boston, to one in 39.88; in Baltimore,

one in 36·19. These figures prove that New York is not only less healthy than either of the other cities mentioned, but that in that year it reached almost the same ratio of mortality that London exhibited nearly two hundred years ago. But London, under a thorough system of hygienic supervision, has vastly improved, and 1 to 40 is the ratio of the present day. The sanitary interests of that city are committed to the care of medical men—men who have devoted their lives to the subject of sanitary science. So in Boston, so in Philadelphia; but in New York, for the last twenty years, the great interests of the public health have been confided to the charge of party politicians, ignorant of the causes of disease, or the means of their prevention; and, as a natural result, the ratio of mortality to the population has been rapidly on the increase.

And, as if to add "confirmation strong as holy writ" to these statements, the annual report of the Board of Police Commissioners for 1861 exhibits the astounding fact that nearly one-half of the entire population of the city resides in tenement-houses, containing four families and upwards. In regard to these houses, the Commissioners allege that in their erection every "consideration of health or comfort, and of safety, was sacrificed to provide room for the largest number of inmates, and that the sacrifice of life from deficient ventilation, defective drainage, and putrid gases, could not be over-estimated, because these sources of disease affect the atmosphere of the whole city.

"It is the opinion of physicians, that the minimum quantity of air which should be allotted to each person in a bedroom is 500 cubic feet, or a cube of eight feet; and that if the space be reduced, the generation of disease is inevitable.

"By reference to the table referred to, it will be seen that there are in the City of New York—

	Houses.	Inmates.
Having from 100 to 300 cubic feet to each person	1900	63,337
Having from 300 to 400 cubic feet to each person	2991	103,371
Having from 400 to 500 cubic feet to each person	2517	79,462
Cellar population averages 462	—	21,119
Total		267,289

"Tenement-houses, because of the large number of families resident in them, are peculiarly liable to destruction from fires, and public attention has been drawn to the necessity of providing proper means of escape for the inmates.

"The following is the result of the examination of the Sanitary Police:—

	Houses.	Inmates.
Means of escape defective	3791	126,582
Means of escape good	8419	256,305

From the same report, we also learn that there are 167 slaughter-houses in the city, at which have been killed 785,616 head of cattle and small stock. These buildings are scattered throughout the city, and are fruitful sources of disease. Then, again, there are also hide-houses, offal, and bone-boiling establishments within the lines of dense population. A recommendation that these should be removed, is evidence that they are not conducive to the health of the city.

These are startling considerations, and they indicate with unmistakable certainty the necessity of complete and thorough reform in the sanitary regulations of the city. The politicians should be "weeded out." The Augean stable should be cleansed. Some Hercules in sanitary science, like the author of the pamphlet before us, should be commissioned to drive out those pestiferous political hacks, and substitute in their place the legitimate patrons of medical and sanitary science. For this purpose, legislation is undoubtedly needed, both State and charter, and all who value public health should join heart and soul in the work. Here, we may add, is a legitimate field for a sanitary commission. Here are nearly half a million souls, among whom the seeds of disease and death are constantly being planted by the neglect of proper sanitary arrangements. Filth and uncleanness are allowed to accumulate with no power to compel their elimination. Human beings, victims of the sordid avarice of landlords, are crowded into narrow, pent-up tenements with not enough of the free air of heaven to vitalize the blood in their system. Here is *work* for a sanitary commission; work for each member of it "over against his own house;" labor, in which results grand and important may be reached at once, and which will eventuate in saving the lives of thousands of the population of that great city. Here is a field full of interest to the true friend of humanity; not ample enough, perhaps, for that pseudo-philanthropy which exhibits large-hearted benevolence where its own aggrandizement may result, but quite ample enough for him who seeks reward for his untrumpeted charities in the alleviation of the woes and miseries which knock at his own door for relief.

If we were a resident of the great metropolis, we would add our humble efforts to those of the author of this excellent pamphlet, in endeavoring to rouse the people to the importance of better sanitary arrangements. We would endeavor to

open their eyes to see the volcanic fires of disease and death which will, ere long, burst out in their midst, if not quenched. And we would earnestly invite the sanitary commission which has figured so largely in the national eye for so many months past, to turn their attention to the sanitary condition of the nearly half a million of men, women, and children that inhabit the crowded tenements of that city.

PROPOSED REFORMS IN THE MEDICAL DEPARTMENT OF THE ARMY.

Among the subjects of legislation already introduced into the halls of Congress now in session, is that relative to the Medical Department of the army. Only the outlines of the bill introduced by Senator Wilson have as yet come under our notice; enough, however, to indicate the general features of the proposed legislation. The bill provides for the appointment of the following officers:—

"Director-general, with rank of brigadier-general, who shall be chief of the medical corps, and perform the present surgeon-general's duties.

"Sanitary inspector-general, with rank of colonel of cavalry, who, under the director-general, shall have general supervision of all that pertains to the sanitary condition of the army.

"Six sanitary inspectors, with the rank of lieutenant-colonel of cavalry, who shall inspect the sanitary condition of the troops, and report to the sanitary inspector-general.

"Surgeons of first class, with rank of captain of cavalry, for staff, hospital, and bureau duties.

"Fifty surgeons second class, with same rank, to be assigned to duty with regiments.

"Assistant-surgeons, not exceeding seventy, with rank of first lieutenant of cavalry, with duties of assistant-surgeons.

"Not exceeding seventy-five medical cadets, not less than eighteen nor more than twenty-three years of age at their entry, to be examined by a medical board. After three years continuous service they may be examined for promotion to the rank of the highest class of non-commissioned officers.

"As many hospital stewards as the service requires, designated by a sanitary inspector, on the recommendation of the senior surgeon of the post, division, or regiment, with rank of first sergeants of cavalry.

"Sections 2, 3, 4, and 5 provide for selection, by the President, from the *whole army medical corps*, of suitable persons to fill the places of director-general, sanitary inspector-general, and sanitary inspectors, none of whom are to be over sixty years of age. Other officers are to be appointed and promoted by seniority. Vacancies are to be filled from *civil life*, or from brigade

surgeons of volunteers, after an examination, who are not to be over thirty-five years of age.

"Section 6 repeals the allowance of extra rations to surgeons, upon the completion of ten years' service.

"Section 7 provides for the retirement of every medical officer sixty-five years old; and section 8 repeals all inconsistent laws."

Supposing this outline to contain the leading and important features of the bill, we make the following suggestions:—

1st. Whether the provisions of this bill do not utterly annihilate the distinction between legitimate and illegitimate medicine: whether they do not open the door wide for the indiscriminate introduction of Eclectics, Homeopaths, Thompsonians, and any irregular who has friends enough at court to secure his appointment? Such may not have been the intention of those interested in framing and introducing the bill; but may not its provisions for the appointment by the President of the controlling officers of the organization, and also of filling vacancies "from civil life or from brigade surgeons of volunteers," be liable to that objection? A man has already received the appointment of brigade surgeon, from the Secretary of War, who is a graduate of no medical college. Under this bill, what guarantee has the profession that such men will not be appointed to the highest positions contemplated in it?

By the present construction of the medical department of the army, no such calamity is likely to occur.

2d. Whether, instead of a reform of already existing errors, and a remedy of defects in the present organization, this bill does not create virtually a new medical bureau based on the old only in semblance, but not in reality? whether, if it be not an abrogation of the present bureau, it be not such a change in all its essential features as to impair its efficiency and usefulness?

3d. Whether giving the President the appointing power in the medical department, is not likely to introduce the question of political preferences as a criterion by which to be guided in their selection? To whichever party the President may belong, the individuals whom he selects for the various positions within his gift are quite certain to coincide with him in political views. Whether in these appointments politics rather than *fitness* may not determine the selection?

4th. Reforms in the department are, to some extent, required. Granted. Whether it be not

better to engraft these necessary reforms upon the old stock instead of supplanting that by a new germ? Sufficient attention is not now given to the sanitary regulations of the army. Admitted. Whether it be not better to establish in the department as at present constituted, a bureau specially devoted to that important subject? Whether that sanitary commission should not be selected from among those whose ability, long service, experience in camp duty, and scientific attainments render them peculiarly adapted for that service, and from the bureau itself?

The surgeon-general ought to have a higher rank in the army, and some degree of authority to enforce the regulations of his department. Granted. Whether it be not better to confer upon the present able and efficient surgeon-general that rank, without introducing a new officer to supersede him, or create a new office for some ambitious aspirant?

5th. Whether the medical department of the army has not, by its humane ministrations, and its rigid exclusion of all illegitimacy and irregularity, commended itself to the confidence of the profession generally during the forty years of its existence; and whether it has not made the name of the American military surgeon honored and revered everywhere? Whether it has not nobly and generously responded to all the claims of the nation upon it, in peace and in the wars of the past, and especially during the present unhappy contention? Whether it has not proved itself in all points an efficient and energetic organization, thoroughly versed in all its duties and requirements? And whether, as an economical measure, it be not better to preserve it in all its essential features?

6th. Whether the object of the originators of this project for remodeling this department be not entirely sinister, or mercenary, or for self-aggrandizement?

7th. Whether it be not the duty of the profession to scrutinize carefully every provision of this bill before giving it their sanction, and to take care that no specious cry of reform, or proclamation of alleged abuses, shall lead them to lend their influence to consummate a project which shall degrade them to a level with the most arrant quackery?

Howard Hospital.—The number of patients registered in December was 356; prescriptions furnished, 819; patients registered since March 1, 1861, 3075; prescriptions furnished, 8076.

THE LOSS OF CONFIDENCE IN THE SAFETY OF CHLOROFORM.

There is continually appearing evidence of the loss of confidence in the safety of chloroform for general use as an anæsthetic, and a disposition to revert to the exclusive administration of sulphuric ether. The investigation by the Boston Society for Medical Improvement into the alleged causes of death from ether has resulted in the acquittal of that agent from the responsibility of, in any instance, being the cause of death. In this verdict all of those who have given attention to the subject do not agree. At the same time there is a universal admission of a far greater safety in ether. Dr. Kidd, of London, whose name is associated with the study of anæsthesia, and who has been an advocate of chloroform, while admitting, as he does, that there have been forty-one fatal results from ether, believes that "ether is one-third or one-half again more safe than chloroform."

As an evidence of the loss of confidence in the safety of chloroform, we might refer to a letter from the above-named distinguished physician to the editor of the *Dublin Medical Press*, in which he says that "it is a good plan to get the patient under chloroform first, and then keep up the narcotism with ether." Perhaps but little as to safety would be gained by this plan, as, be it remembered, a very considerable number of deaths from chloroform have occurred when but a few breaths of the vapor had been inhaled, and the sleep of death took place before time elapsed for the production of ordinary anæsthesia.

While no case of fatality, undeniably traceable to ether, has been in this country adduced, undisputed deaths from chloroform are numerous—probably exceeding one hundred. At the same time the use of ether has been very extensive among American surgeons, while but few have habitually given chloroform.

After a very considerable use of chloroform, unattended with accident, and while delighted with our personal experience in its administration, we, several years ago, impressed with its appalling mortality continually being reported, abandoned its use. Without totally condemning chloroform as an anæsthetic, we state, as our appreciation of it, that, while so little is known as to the manner in which it produces death, and of means of avoiding accident, and while we have another agent, in the administration of which almost absolute safety can be insured, the general use of chloroform, for anæsthetic purposes, is not justified.

EDITORIAL NOTES AND COMMENTS.

The Surgeon-General of Pennsylvania desires specially to acknowledge the receipt of *twelve* fresh scabs of vaccine, forwarded for the use of the Pennsylvania volunteers by Dr. Otto Meissner, of Millerstown, Lehigh County, Pennsylvania, which will be immediately distributed in in the name of the donor.

We commend the action of Dr. Meissner to the consideration of the profession, and ask whether others cannot do likewise. As the scabs are used, free of charge, for the protection of our fellow-citizens engaged in a war for the support of our institutions, the profession may well imitate the liberality of Jenner, and contribute freely their offerings to the protection of our troops. Numerous offers have been received to *sell* vaccine, the applicants evidently not realizing the difference between its use on those who pay the practitioner for the vaccination, and its application to patriots fighting for the maintenance of our Government and the preservation of our property and homes.

Sanitary Condition of Vermont Troops.—The Vermont troops are among those which have been most disabled by sickness. The first regiment carried with them the measles, which spread generally through their camp at Newport News. The other regiments, whether on account of their encampment in an unhealthy region, or from the marked change of climate from the pure, bracing air of the Green Mountains to the warmer, less genial, languor-producing climate of that portion of Virginia where they are encamped, or from the change from the active labor of the farm and workshop to the more exact military exercise, or from the change of diet and drink, one or all, we are unable to say, have suffered greatly from sickness. Diseases of the typhoid type have been the most common. These facts have attracted the attention of the authorities of that State, and the Governor has commissioned Dr. Ed. E. Phelps, of Windsor, for the special duty of examination into the sanitary condition of the Vermont troops, and has also ordered five additional assistant-surgeons to report themselves at Camp Griffin for special duty, and in addition has sent a supply of medicines from this city. These prompt measures for relief indicate the deep feeling which exists in Vermont for the welfare of her sons who are engaged in this war for the

Constitution and the Union, and is highly commendable to her authorities. From Dr. Phelps' report, made under date of January 2, 1862, we learn that there is now less mortality among the troops, a smaller number excused from duty on account of sickness, and that the character of disease is not so malignant as it was a few weeks since. He says:—

"The amount of sickness in the Fifth and Sixth Regiments is greater than in either of the others: in the Sixth ranging from 220 to 250 excused from duty, with 50 or 60 in hospital, and in the Fifth about the same number excused from duty, with more in hospital. In the Third and Fourth the number excused from duty is from 90 to 130, with less than 20 in the hospital in the Third, and about 60 in the Fourth."

Three "log hospitals" have been erected, one each for the Second, Fourth, and Sixth Regiments. These structures have good board floors, and a light roof made of shingles from the Virginia chestnut-wood, worked into shape by the "Green Mountain Boys." They are warm, dry, and can be kept perfectly neat, are readily and thoroughly ventilated, and without discomfort to the patient. In the other regiments good hospital accommodations are also provided. In conclusion, the Doctor says:—

"The great want now is of well-trained and skillful nurses. Men are picked up from the regiments that are good, but very good ones are rare; and it makes a vast difference with the sick, whether the nurse is only good or very good."

A remark which will apply with equal force whether the sick be in camp or city hospital, or with the family at home.

Health of the Army.—The Report of the Medical Board states that the sanitary condition of the United States army is, in general, eminently satisfactory. It declares the fever, which has, to a considerable extent, prevailed in the camps, under the name of typhoid fever, is evidently of a malarious origin, having been most effectually checked when treated as malaria with quinine and mercury. The cases are not what is generally known as typhoid fever in the Northern States. The Board suggests the means of preventing disease of this sort, namely: sufficient space for quarters; proper discretion in allotment

of time for drill; the rigid enforcement of cleanliness; and diversion of the mind by gymnastic and other sports.

Indigent Widows' and Single Women's Society.—The anniversary exercises were held on the ninth instant at the Asylum, Cherry Street, below Eighteenth. Two deaths only have occurred during the year, one at the age of one hundred and three years. The number in the Asylum is seventy-six, almost all of whom have attained an extreme old age and have held respectable positions in life, and by this benevolent association are enabled to close their days surrounded with all needed comforts. Four only were received during the past year, and more applicants are on the list for admission into the house than the managers can make provision for. The income of the society is derived from a fund given for the purpose, from donations and annual subscriptions. The times have affected this charity as well as others, yet few are more worthy of being fully sustained.

Heating City Cars.—We observe that the city railroad cars in Lynn, Massachusetts, are heated by an apparatus underneath the floor, and are thus made warm and comfortable. This matter is worthy the attention of all city car companies. Or, in the absence of such a method of heating the cars, if the conductors would be careful to keep the doors closed, they would contribute vastly to the comfort of the passengers.

Death of Prince Albert.—Our foreign exchanges come to us in mourning for the death of Prince Albert. His disease was typhoid fever, from which he died shortly before eleven on the evening of the 14th of December. He was attended by Sir James Clark and Dr. Jenner, with Sir Henry Holland and Dr. Watson, as consulting physicians. The attack of the disease was not very severe in its early symptoms, but, from its very nature, taxed heavily the resistant vital powers and energies of the sufferer. "There was genuine grief in every English heart," says the *Lancet*, "when the sad news of the Prince's death was told." Singularly gifted, able, and wise in the exercise of his talents, his death is a heavy and irreparable loss to the country. Says the *Lancet*:—

"His high scientific attainments; his encourage-

ment of the arts and sciences—not merely as a cold patron, but as one skilled himself to judge accurately, and willing himself to join in the work of advancement—drew to him a heartfelt respect and a deference from men of intellect and science, such as never were previously extended to any Prince of this land—such as no Prince of this land ever before deserved. His name will always be associated with that wonder-work, which may almost be said to have risen at his bidding, ten years ago, so energetically and so earnestly did he devote himself to the realization of that grand idea. And the new Exhibition, fast progressing toward completion, is so identified with his name that no one can now enter its portals without sadly thinking of the good Prince whom we have lost, of the master-mind at rest, and forever." Says the *Times and Gazette*: "He was the promoter of every attempt to develop the resources of the country, to enlarge the mental capacity, and increase the comforts of the people, and thus to lay wider and deeper foundations for the prosperity of future generations. We gratefully record his promotion of art, science, and literature."

Correspondence.

NEW YORK CORRESPONDENCE.

NEW YORK, December 28th, 1861.

Our medical gladiatorial arena, the Academy of Medicine, which has been the field for so much senseless wrangling, was recently the scene of a particularly disgraceful affair. The object this time pitted was a visiting stranger in the hall, although well known and respected in the profession, who, on attempting to speak on a subject which was introduced, and which concerned his own reputation, was most insultingly gagged.

The subject announced for discussion was a medico-legal one, involving the medical evidence in a well-known murder trial. In this case, Dr. Swinburne, of Albany, made the autopsy, and had given much time and study to the medico-legal investigation, and was, of course, interested in hearing the proposed discussion of the questions which were announced for the meeting of the Academy. After the opinions of one of the medical witnesses in the case had been ventilated at length, it was proposed by a prominent member that Dr. Swinburne, who was present as a visitor, be invited, as is the courteous custom, to take part in

the discussion. Dr. Swinburne offered to read his notes of his experiments having a bearing on the case, and also the opinions of eminent medico-legal jurists who had been consulted in reference to the attested facts of the case, but the speaker and his friends, who had already made up their minds from hearing one side of the matter, and like the Dutch judge who did not wish to have his mind confused by hearing evidence on two sides of a case, insultingly snubbed the Doctor, so that he was obliged to be silent. The affair was a great breach of the etiquette which should protect a stranger in a scientific body.

The medical classes this session look rather fair in numbers—certainly as large as under the circumstances could have been anticipated. Perhaps none of them are remunerative to the teachers. The new Bellevue Hospital College, which was pre-announced with so much promise, and opened with so much flourish, has in every way fallen short of the general expectation.

Some influential parties are considering the project of starting a new medical journal. The present times do not seem propitious for such an enterprise, but the field for it is open. I have not understood whether it is designed to be a weekly or monthly issue. Of late, your journal is almost the only one I meet with among the practitioners. Our journals seem to be ephemeral, and several have recently ceased their existence. When poor Reese departed, his journal, which he used as a lash that was a terror to some cliques and evil-doers among us, soon followed him to the land of silence.

The *American Medical Monthly* has always been in good favor, but it is said to be about passing into new hands, who it is hoped will not let it languish.

S.

FREE INCISION INTO THE TONSILS IN DIPHTHERIA.

The following is an extract from a letter addressed to Dr. Francis Gurney Smith, of this city, by Dr. Alexander McIntosh, of Antigonish, Nova Scotia:—

"Diphtheria and scarlatina were raging in Nova Scotia when I returned from Philadelphia. Three-fourths, at least, of those attacked fell victims to it.

"I learned that the tonsils of those that recovered had opened spontaneously, and that there was a change for the better immediately after. I concluded to open the tonsil, or tonsils, as the case might be, for the future. The result, I am happy to say, was that I lost scarcely a patient after I adopted this mode of treatment.

"I used a curved, sharp-pointed bistoury; pus always escaped; never had any serious hemorrhage. I then cauterized the cavity and edges with the nitrate of silver, either in the solid form or in solution, twenty grains to the ounce, three or four times a day; hot applications to the neck; tonics, stimulants, or depletion, as the case required.

"Physicians from neighboring counties wrote to me to know my treatment. They tried it, and with like success.

"If this mode of treatment is not known to the profession in the United States, you will oblige me by making it known as soon as possible, for I feel confident that it is the only proper treatment."

ARMY CORRESPONDENCE.

The Sanitary Commission; Wilson's Bill.

CINCINNATI, January 14th, 1862.

MESSRS. EDITORS:—I have just read with much satisfaction your article on "The Sanitary Commission—*cui bono?*" It would have gratified me still more had it pleased you to have elaborated this matter still further, and said something of the corps of brigade surgeons as a sanitary commission, and of each brigade surgeon as a sanitary officer; for it is their duty as a corps or commission, and his as brigade surgeon commissioner, to do just what the Sanitary Commission is doing, and more intelligently and effectively, by virtue of his medical education. Then I say, with you, that "the peculiar province of the science of medicine invaded by this attempt to commingle lawyers, theologians, and civilians in a Sanitary Commission." Most true again, "It comprises in its scope all that pertains to hygiene, as well as therapeutics; all that relates to prevention, as well as the cure of disease."

The humblest member of the corps of brigade surgeons of the army, it does not become me to speak for the corps; but for myself, I desire to say to you that I consider it to be my solemn, sworn duty to act for the brigade to which I expect soon to have the honor of being attached, as its sanitary officer, as well as surgeon; and to institute sanitary regulations, and suggest and carry into operation means for the prevention of sickness among the troops, to the end that a mixed commission of doctors, lawyers, haberdashers, civilians, and scullions, shall not have it in their power to boast of their wonderful achievements.

The last paragraph of your article, and indeed every line and word, meets my most cordial approbation; and from recent association with many officers of the medical staff of the army at Washington and other cities, with whom I have conversed on the subject, I am satisfied, could it be placed in their hands, would be warmly approved. True, the Sanitary Commission was organized only "to aid the Medical Bureau, without displacing it, or in any manner infringing upon its rights and duties;" but has it aided the medical bureau,

and not sought to displace it, or in any manner infringe upon its rights and duties? The reports of the Commission show for themselves that it has sought to displace the *head* of the Medical Bureau—and why? Because that head very properly declined to submit to the dictation of the Commission in the removal of able and efficient medical officers of the hospitals at Alexandria, Virginia, and other places, and appoint its favorites in their place. In their Reports they have clamored for his removal—for what? charging what? Nothing! They make no specific charge whatever, but by innuendo, that the Surgeon-General is inefficient.

Whence emanated the bill introduced in the Senate by Gen. Wilson, Chairman on Military Affairs, “to reorganize the Medical Department of the Army”? The Sanitary Commission, as I am informed. The 7th Section of the bill provides for the retirement of every medical officer sixty-five years old. Why? To get rid of the present able, experienced, and accomplished head of the Medical Bureau. Hitherto the world—not the *N. Y. World* newspaper, nor the *Tribune*, nor the *New York Medical Times*, all aiding and abetting the Commission in the raid against Surgeon General Finley—hitherto the world has supposed that age and experience in the physician and surgeon was a *sine qua non*.

It is gratifying to know that the 7th Section does not emanate from the medical profession, or from any known member of it. The universal confidence reposed in the Surgeon-General by the medical staff of the army, forbids the belief that it ever originated with any respectable member of the profession. The 1st Section of the bill is objectionable, inasmuch as “director-general” is neither professional nor expressive, whereas surgeon-general is both; as well say for regimental surgeon, “director of the regiment,” or “regimental director;” and what would this express? Nothing at all. The rank of brigadier-general is eminently proper for the surgeon-general, and an assistant surgeon-general with rank of colonel of cavalry. Hospital directors, etc. etc., as suggested in the report requested of Surgeon-General Finley by the Secretary of War. But no medical officer to be retired except from physical debility.

There are other objections to the “Wilson Bill,” but I have not time to discuss them. I trust you will do so through the *REPORTER*. Let the Sanitary Committee attend to its legitimate business, if it has any, and aid the medical bureau and staff of the army in its energetic and Christian duty, (the surgeon-general is a Christian as well as an able and efficient officer,) and not seek to interfere with and attempt to break it down, assuming to know more of medical science than medical men themselves; composed as it is of a “mixture of law, theology, civil, and military experience, with medicine, legitimate and illegitimate, sandwiched between”—the *toute ensemble* forming a hybrid monster—notwithstanding which, confining itself to its

legitimate duties, it would insure the co-operation of medical men instead of their lukewarmness and negative assistance.

U. S. A.

Revaccination in the Army.

CAMP CURTIN, January 2, 1862.

SIR:—In answer to your inquiry relative to the result of revaccination in the 54th Regiment P. V., I beg leave to offer for your consideration a few facts gleaned from data now before me. In the month of April, 1860, as vaccine physician of the borough of Chester, I vaccinated in all over one hundred cases, eighty of which had been previously vaccinated, and presented the true vaccine mark upon the arm; at least sixty of those revaccinated took the vaccine disease, which ran its course through the several stages with as much regularity as it usually does in that of infants, with the exception that the inflammatory symptoms were much more violent.

In the month of November, 1861, in obedience to your orders, I commenced the vaccination of the regiment to which I have been assigned by you. In all some five hundred men were vaccinated. Out of that number, one in every six presented the true vaccine vesicle. I am safe in saying that in at least three hundred cases the revaccination was perfectly successful. Two cases fell under my observation which had been vaccinated on several previous occasions without effect, which in the present instance were also unsuccessful. It is due to Assistant-Surgeon A. W. Mathues to say that the data relative to this regiment were furnished by him. Without pretending to go into any argument relative to the question of revaccination, I merely remark that, as far as my own experience extends, it is decidedly in its favor.

J. M. ALLEN,

Surgeon 54th Regt. P. V.

TO SURGEON-GENERAL H. H. SMITH.

New Invention: the Patent Siphon-Tap Cork-Screw.—A very pretty and useful invention, and likely to be found of great value in the sick room. The parched and fevered patient need now have no more flat, unpalatable drinks. By screwing this little incorrodible siphon-tap into the cork of a bottle of champagne, soda-water, lemonade, mineral waters, or other aerated beverages, he will possess the means of drawing off the contents at pleasure, while the grateful briskness of the fluid is preserved to the last drop. It is manufactured by Mr. Morton, of Cheapside.—*London Lancet.*

NEWS AND MISCELLANY.

Tracheotome.—M. Maisonneuve, in a paper to the Academy of Sciences, France, draws attention to an instrument, which he has recently devised, for facilitating the operation of tracheotomy, and which he proposes to call "tracheotome." "He was struck," he remarks, "by the difficulties which both himself and others had encountered in the performance of this operation," and thought that the process might be much simplified by the employment of an instrument which would cut from within outward, instead of, as heretofore, from without inward. His invention consists in an implement somewhat like a reaping-hook, the point of which is made to enter the crico-thyroid membrane, to penetrate into the trachea, and cut its way back through the tissues by emerging in a direction downward and forward.—*Lancet*.

A Veteran Dead.—It is seldom, in these days of "fast living" and fast dying, that an individual lives beyond one hundred years. An instance, however, has occurred in this city. Michael Comins died, a few days since, at the age of 105; he was born in the County of Wexford, Ireland, in 1757. He took an active part in the Irish rebellion of 1798. Has always been in excellent health, and at the time of his death had a most stentorian voice. His wife is still living, at the ripe age of 103 years, and still attends church.

Military Hospitals.—The military hospitals in this city are receiving large quantities of goods of various kinds, both from public and private sources. Those from private hands pass direct from the quartermaster to the various hospitals. Persons in the country desiring to send articles and goods for the soldiers at Washington, should address all communications to Dr. Lamb, Medical Purveyor, U. S. A., Washington. They will thereby save the expense of paid agents and collectors, and insure the proper distribution of their charities.

Pennsylvania Hospital.—The number of admissions into this hospital, during the year 1861, was 1710. Of these, 1361 were males and 349 females. Adults, 1496; children, 214.

Gross's Surgery.—We are informed that the first edition of this great work is exhausted, and that a second, thoroughly revised, edition will speedily appear. By condensation and lessening the size of the type, a vast amount of matter will be added to the new edition without increasing the bulk of the volumes.

Promoted.—Dr. James Bryan, of this city, late Surgeon to the Cameron Dragoons, has been promoted to the post of Brigade-Surgeon, and assigned to the Burnside expedition.

Surgeon-General Henry H. Smith.—The following paragraph from the recent message of the Governor of the State of Pennsylvania expresses a well-deserved appreciation of the efficient labors of the Surgeon-General:—

"The care which has been bestowed upon the comfort of the volunteers, and the goodness and sufficiency of their supplies of all kinds, and the excellent arrangements of the Medical Department, under the control of Surgeon-General Henry H. Smith, are proved by the fact that more than 60,000 men have been for various, generally short periods at Camp Curtin since the nineteenth of April last, and that down to the first of January instant there died but forty-nine men at that camp, viz., forty-four from sickness, two (belonging to regiments from other States) who had been injured on railroads, two accidentally killed in Camp Curtin, and one shot in Harrisburg."

We learn that Dr. Tripler, Medical Director of the Army of the Potomac, will soon issue an order to the surgeons of the various hospitals, directing them to furnish a weekly report of deaths, including the name, company, regiment, and disease of the deceased. This report has, heretofore, been made quarterly.

There are now four hundred patients in the Mansion House Hospital at Alexandria, which is under the superintendence of Dr. J. B. Porter, an old and efficient army officer. Dr. Rankin, of Cumberland County, Pa., is one of his staff.

Rensselaer Polytechnic Institute, Troy, N. Y.—From the annual register of this Institute, it appears that eighty-two students were in attendance during the last year, and that the Graduating Class numbered twenty. There are three general courses in the Institute, extending over a period of three years each, viz., Civil and Topographical Engineering and General Science, to which the trustees propose to add a course in Mining Engineering, and one in Military Science, the latter of which is now in full progress. The Institute was founded in 1824, reorganized in its present form in 1849, and stands deservedly high as a school for instruction in the mathematical, physical, and natural sciences.

Army Medical Society at Cairo, Mo.—"An association, called the Army Medical Society, has been formed, composed of the surgeons and assistant-surgeons connected with the various regiments and hospitals at Cairo, Bird's Point, and Mound City, its object being the improvement and diffusing of medical science among the members. The meeting was held at the office of Dr. Taggart, the medical purveyor at this post, and was temporarily organized by Surgeon Stahl being called to the Chair, and Brigade-Surgeon Burke appointed Secretary. Brigade-Surgeon Brinton explained the object of the meeting as being one in which all the surgeons now engaged in the army should feel a deep interest during the war. Surgeon Brinhurst moved that a committee be appointed to report a list of officers for the government of the Association. The following gentlemen were elected: Surgeon Stearns, President; Vice-Presidents, Surgeons Davis and Bowman; Secretary, Surgeon Taggart. They will hold a meeting once a week, and two papers

will be read at each, for discussion; and every subject connected with army surgery will be discussed."

A Work on "New Remedies."—Dr. Elsberg, of New York, in connection with Dr. Percy, is preparing a work on "New Remedies." It will embrace all valuable medicinal agents introduced into the Treatment of Disease since the year 1830, up to the present day, detailing their history, description, action, and uses, and giving the most approved Formulæ of Preparation, Preservation, and Administration. In Formulæ it will be particularly full, for the use of both physicians and pharmacists. Novelty not being deemed a sufficient passport for admission into confidence unless sustained by merit, and with the only object—to be useful—and the only means—*Labor to approach the Truth*—constantly before us, we are determined that no really useful remedy, introduced during the last thirty years, shall be slighted, while no undue prominence shall be given to undeserving articles. Nor will uncertainty or ignorance at any point that the actual advance of science has not reached, be sought to be concealed by illusory hypotheses or ill-founded statements. Any heretofore unpublished information calculated to add to the practical utility of the work, that may be in the possession of our readers, will be gratefully received, carefully considered, and, if used, appropriately acknowledged. The lamentable circumstances that at present preoccupy the mind of every good citizen—our beloved country's trials—may somewhat delay the realization of our enterprise; but we bespeak for it, even in these troublous times, the co-operation of the profession.

Professor Peaslee recently performed the operation of tapping, on a young lady at Pittston, Pa., and removed *one hundred and forty-nine pounds and three ounces* (149 lbs. 3 oz.) of dropsical fluid. It was weighed, in Dr. Peaslee's presence, by Dr. Lawson and Mr. J. Loveland, of that place. The abdominal circumference of the patient before the operation was *six feet and two inches*, (74 inches.)

This was the same patient from whom Dr. Peaslee removed *one hundred and thirty-five pounds* of fluid (135 lbs.) on the 29th of April last. The circumference then was five feet and seven inches, (67 inches.)

A monument to the memory of Sir Humphrey Davy is about to be erected at Penzance. It will consist of a granite column and base, surmounted with a statue of the great chemist, holding a safety lamp in his hand.

Agassiz's Opinion of the Results of his own Labors.—This great naturalist, in an article in the *Atlantic Monthly*, thus modestly alludes to the results of his studies:—

"The education of a naturalist, now, consists chiefly in learning how to compare. If he have any power of generalization, when he has collected his facts, this habit of mental comparison will lead him up to principles, to the great laws

of combination. It must not discourage us that the process is a slow and laborious one, and the results of one lifetime after all very small. It might seem invidious, were I to show here how small is the sum total of the work accomplished even by the great exceptional men, whose names are known throughout the civilized world. But I may at least be permitted to speak of my own efforts, and to sum up in the fewest words the result of my life's work. I have devoted my whole life to the study of nature, and yet a single sentence may express all that I have done. I have shown that there is a correspondence between the succession of fishes in geological times and the different stages of their growth in the egg—this is all. It chanced to be a result that was found to apply to other groups and has led to other conclusions of a like nature. But, such as it is, it has been reached by this system of comparison, which, though I speak of it now in its application to the study of natural history, is equally important in every other branch of knowledge."

Appointments.—Dr. E. N. Morgan, of Pownal, is the Surgeon of the Seventh Vermont Regiment. Dr. Oswald Warner, City Physician of Patterson, New Jersey, has been appointed Assistant-Surgeon in the United States navy, and assigned to duty on the steamship Western World. Dr. J. H. H. Brientnall, of Newark, formerly Surgeon on the Collins steamer Atlantic, has also been appointed Assistant-Surgeon U. S. N., and assigned to the steamer Crusader, now lying in New York harbor.

Dr. G. D. Beebe, of Chicago, has been appointed a brigade surgeon.

Sick and Wounded Soldiers.—On the third instant there were 1257 sick and wounded soldiers in the hospitals of the Potomac. Of these, there were 44 Pennsylvanians in the Seminary Hospital at Georgetown; 31 in the General Hospital, (Union Hotel,) Georgetown; 37 in the Hospital at Columbia College, Washington; 112 in the General Hospital at Alexandria; 3 in the Fifth District School-house Hospital, (branch of the General Hospital on E Street;) 20 in St. Elizabeth Hospital, (Eastern branch;) and 28 in the Hospital for Eruptive Diseases, at Kalorama.

The Power of Suffering in Silence is that one virtue which gives something like a grandeur to the character of the English peasant—rude, coarse, unimagined, and lumpy as he may seem to be in general. No one is better qualified to give testimony to this than Miss Nightingale. In a recently-published letter she says:—

"The simple courage, the enduring patience, the good sense, the strength to suffer in silence—what nation shows more of this in war than is shown by our commonest soldier? I have seen men dying of dysentery, but scorning to report themselves sick, lest they should thereby throw more labor on their comrades, go down to the trenches, and make the trenches their death-bed. There is nothing in history to compare with it. Other nations may do

it for glory, but we for duty, as the Duke of Wellington said. I say no one has seen the horrors of war as I have, yet I was glad to see the spirit of war arising in our volunteers. Say what men will, there is something more truly Christian in the man who gives his time, his strength, his life if need be, for something not himself—whether he call it his Queen, his country, or his colors—than in all the asceticism, fasts, and humiliations that have ever been made. And this spirit of giving one's life, without calling it a sacrifice, is found nowhere so truly as in England."—*Lancet*.

Munificent Gift.—Mrs. Paturle, widow of Mr. Paturle, formerly factory owner and member of the Chamber of Deputies in France, has just founded in the town of Cateda a hospital, completely fitted for the reception of twenty-four patients.

M. Chassagny, of Lyons, has proposed an ingeniously constructed amygdalotome, resembling Fahnstock's instrument. The straight fork is replaced by horizontal hooks, which draw the hypertrophied gland into the ring of the guillotine. That it is now and then very difficult to get the tonsil into the ring every operating surgeon knows.

Population of the Globe.—A Professor of the Berlin University has been making curious researches respecting the population of the globe. The following is the result:—Population of Europe, 372,000,000; of Asia, 720,000,000; of America, 200,000,000; of Africa, 89,000,000; of Australia, 2,000,000: total population of the globe, 1,283,000,000. The average number of deaths per annum in certain places where records are kept, is about 1 to every 40 inhabitants. At the present time the number of deaths in a year would be about 32,000,000, which is more than the entire present population of the United States. At this rate the average number of deaths per day is about 87,861; the average per hour, 3653; the average per minute, 61. Thus, at least, every second a human life is ended. As the births considerably exceed the deaths, there are probably 70 or 80 human beings born per minute.

Eight Children at a Birth.—On the 2d of August, Mrs. Timothy Bradlee, of Trumbull County, Ohio, gave birth to eight children—three boys and five girls. They are all living, and are healthy, but quite small. Mr. Bradlee was married six years ago to Eunice Mowery, who weighed 273 pounds on the day of her marriage. She has given birth to two pairs of twins and now eight more, making twelve children in six years. Mrs. Bradlee was a triplet, her mother and father both being twins, and her grandmother the mother of five pairs of twins.

Theories in Relation to Malaria.—An important discovery in connection with sanitary science and with physical geography has been made by the illustrious agricultural chemist, Boussingault. He lately read before the Academy of Sciences a paper in which he demonstrated, with remarkable

precision, that oxide of carbon accompanies the liberated oxygen, whenever the sun shines upon a vegetable submerged in water impregnated with carbonic acid. The presence of so deleterious a gas as carbonic oxide in the atmosphere of marshy countries is manifested by this discovery, and it explains the fatal attacks which animals suffer in the health when exposed to the influence of marshy exhalations.

On the other hand, it is maintained, that in large cities where coal is consumed, as in Paris and London, carbonic oxide is much more abundant in the atmosphere than it is in the most unhealthy marshy situations, and yet marsh fevers do not prevail in those cities. This has led to the conclusion that the cause of marsh fevers is due to a solid organic body, a microscopic insect, or the *débris* of an insect carried through, and penetrating the air-passages of the lungs, and acting like a putrid foreign body which vitiates the whole mass of the blood in the animal, by a process of putrefactive fermentation.—*Scientific American*.

The New York Ophthalmic Hospital.—The annual meeting of the Board of Directors and members of this institution was held at the Hospital building, January 14th. It appears by the report that the attending surgeons, Drs. Stephenson and Garrish, have treated, during the last quarter, 296 patients, suffering with diseases of the eye; 9381 poor persons have received gratuitous advice and treatment at the institution since its foundation. The hospital is open for the reception of patients every Tuesday, Thursday, and Saturday from one to four o'clock p.m.

Dr. Marion Sims has returned to New York from a most successful tour of some of the more important foreign hospitals. Dr. Sims is largely interested in the establishment of the Woman's Hospital in New York. His remarkable success in the treatment of certain diseases of women has given him an extensive reputation.

Medical Society of the State of New York.

The Fifty-fifth Annual Meeting of this Society will be held in the City of Albany on Tuesday, Wednesday, and Thursday, the 4th, 5th, and 6th days of February next. The meetings of this Society are always invested with interest, and bring together a large number of medical men from the various sections of the State. No similar institution in the country exerts a more extended and beneficial effect upon the profession than the New York State Medical Society. It is nobly fostered by the State, and its Transactions are made a State publication. The approaching meeting will lack nothing of former interest, and all physicians who can do so, whether connected with the Society or not, should make a point of being in Albany during its session. The President of the Society is Dr. Edward H. Parker, and the Secretary, Dr. S. D. Willard. The *REPORTER* will contain an early notice of the deliberations of the Society.

